NRG Energy, Inc.
P.O. Box 1001
1866 River Road
Middletown, CT 06457

February 27, 2014

Ms. Jing Chen
CT Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Subject: Semi-Annual Site Status Update
Middletown Station, 1866 River Road, CT

Dear Ms. Chen:

Middletown Power LLC respectfully submits the enclosed Semi-Annual Site Status Update prepared by Shaw Environmental, Inc. (a CB&I Company) for the Middletown Station. This status update covers environmental activities performed from August 2013 through January 2014 at the subject site.

Please contact Keith Shortsleeve, Environmental Compliance Specialist at Middletown Power LLC with any questions or for additional information at (860) 638-3102 or via email at keith.shortsleeve@nrgenergy.com.

Sincerely,
Middletown Power LLC

Jeffrey Araujo
Plant Manager

Cc: K. Shortsleeve, Middletown Power LLC (hard copy and electronic)
B. Spooner, NRG (electronic)
Juan Perez, USEPA (electronic)
A. Walker, LEP, Shaw (electronic)
File

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February 27, 2014

Project #: 1009634026.09000000

Ms. Jing Chen
CT Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106

Subject: Semi-Annual Site Status Update
Middletown Generating Station
Middletown, CT

Dear Ms. Chen:

On behalf of Middletown Power LLC, CB&I Environmental & Infrastructure (CB&I) has prepared this letter to provide a semi-annual site status update for the subject site. In addition, CB&I is providing the Connecticut Department of Energy & Environmental Protection (CTDEEP) with a schedule for continuing environmental activities at the site.

AUGUST 2013 THROUGH JANUARY 2014 ACTIVITIES

Environmental field activities completed at the site between August 2013 and January 2014 include groundwater monitoring and Engineered Control (EC) inspections. These activities are discussed below. Other environmental activities completed for the subject site during this reporting period include the following:

- Significant progress continues to be made in obtaining property access approval from the Connecticut Department of Transportation (ConnDOT). CB&I provided a revised engineering drawing to ConnDOT on January 31, 2014. Access is required to implement the EC in the southeast portion of SB-2 which extends onto ConnDOT property.

- In January 2014, NRG submitted a re-registration for continued coverage under the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* effective October 1, 2013.

Groundwater Monitoring

Shaw conducted a groundwater sampling event on December 12 and 13, 2013. Groundwater monitoring and sampling was completed at twelve monitoring wells in December 2013. Monitoring well locations are shown on the site plans (**Figures 1** and **2**). A list of the monitoring wells sampled and the analyses conducted is provided in the table below. Laboratory analysis was completed by Accutest Laboratories in Marlboro, Massachusetts. The groundwater sampling event was generally consistent with the monitoring plan provided in EC Part 2 dated November 2010 and the Site-Wide Remedial Action Plan (RAP) dated October 2011.

Location	Laboratory Analysis December 12 and 13, 2013 Groundwater Monitoring Event		
	PAH	Metals	ETPH
TW-10		X	X
TW-14		X	
TW-17D		X	
TW-18		X	
TW-21D		X	
AOC01-MW1R		X	
AOC01-MW2		X	
AOC5-MW1	X		X
AOC02-SB1-MW1		X	
AOC08-SB1-MW1	X		X
AOC09-SB1-MW1	X	As only	X
AOC09-SB2-MW2	X	X	X

Notes:
1. Polycyclic aromatic hydrocarbons (PAH) including 2-methlynapthalene by EPA Method 8270 SIM.
2. Total Metals including arsenic, lead, selenium, vanadium, and zinc by EPA Method 6010C.
3. Extractable petroleum hydrocarbons (ETPH) by Connecticut Department of Public Health Method.

During the December 2013 groundwater sampling event, depth to groundwater was measured at each of the monitoring wells using an electronic interface probe (IP) capable of detecting light non-aqueous phase liquid (LNAPL). LNAPL was not detected in monitoring wells gauged during this event. Results of water level monitoring can be found in **Table 1**.

During the December 2013 groundwater monitoring event, CB&I collected groundwater samples from the monitoring wells listed in the above table using a modified low flow sampling technique. No samples were field filtered. Each well was pumped at a rate that produced little or no drawdown while parameters including temperature, pH, dissolved oxygen, turbidity, and conductivity were monitored. Groundwater samples were then collected after the parameters stabilized to ensure that the groundwater sample was representative of local aquifer conditions. Laboratory analysis of each sample is noted in the table above. The complete laboratory analytical report is provided in **Attachment 1.**

The groundwater analytical results from the December 2013 sampling event and the three previous sampling events are summarized in **Table 2.** This table compares the results to applicable criteria for this site, which is classified as groundwater GB. The results of the December 2013 event are generally consistent with the previous several events. Compounds detected in groundwater samples collected in December 2013 include the following:

- Acenaphthene, fluorene, naphthalene, phenanthrene, and pyrene were detected in the groundwater sample collected from AOC08-SB1-MW1. Only phenanthrene was detected at a concentration (0.70 µg/L) greater than the SWPC (0.3 µg/L). The detected concentrations of other SVOCs were less than the Connecticut Surface Water Protection Criteria (SWPC) where it is defined.

- Selenium was detected in groundwater samples collected from AOC01-MW1R at 26.9 µg/L, AOC02-SB1-MW1 at 5.6 µg/L, TW-17D at 57.1 µg/L, and TW-21D at 43.1 µg/L. The concentrations detected were less than the SWPC of 50 µg/L except at TW-17D.

- Vanadium was detected in groundwater samples collected from AOC01-MW2 at 12.4 µg/L, AOC02-SB1-MW1 at 6.4 µg/L, TW-10 at 7.2 µg/L, TW-14 at 5.0 µg/L, TW-17D at 308 µg/L, TW-18 at 10.6 µg/L (10.2 µg/L in the field duplicate), and TW-21D at 12.3 µg/L. There is no established SWPC for vanadium. However, as a point of reference, the CTDEEP has approved an additional SWPC of 1,500 µg/L for the NRG Devon facility in Milford, CT and the Massachusetts Department of Environmental Protection (MADEP) GW-3 standard is 4,000 µg/L.

- Zinc was detected in groundwater samples collected from AOC09-SB2-MW2 at 377 µg/L. The concentration detected was greater than the SWPC of 123 µg/L.

- ETPH was detected in groundwater samples collected from AOC08-SB1-MW1 at 3.79 mg/L (3.31 mg/L in the field duplicate). There is no established SWPC for ETPH. However, ETPH was not detected in December 2013 in the groundwater samples collected from AOC09-SB2-MW2 and AOC09-SB1-MW1, which are located further downgradient closer to the river, illustrating general compliance with the SWPC.

Laboratory analysis completed as part of these site activities was requested to be conducted in accordance with CTDEEP's Reasonable Confidence Protocol (RCP). The work completed during this reporting period was performed in general accordance with the site specific Quality Assurance Project Plan (QAPP). CB&I performed a data validation review for the laboratory report. The data validation work sheet is attached to the laboratory report included in **Attachment 1**. The laboratory analysis was completed in accordance with CTDEEP's RCP; however, a few minor quality assurance/quality control (QA/QC) issues, which are summarized in the validation worksheet and laboratory report narrative, were identified. QA/QC issues noted included:

- Due to the presence of low levels of zinc in the field equipment blank sample, associated samples with positive results reported at < 5 times the concentration detected in the field blank were qualified as non-detect ("U").

- Due to the presence of low levels of ETPH in the field equipment blank sample, associated samples with positive results reported at < 5 times the concentration detected in the field blank were qualified as non-detect ("U").

- The relative percent differences (RPD) for arsenic, selenium, and zinc were outside the control limits in the serial dilutions for select samples. The percent differences are acceptable due to low initial sample concentrations at less than 50 times the instrument detection limit. Therefore, no sample qualification is necessary.

- The concentrations of fluoranthene and pyrene exceeded 20 percent difference in one continuing calibration check standard. The check standard did meet RCP criteria; therefore, no sample qualification is necessary.

A number of sample results for metals were reported at concentrations less than the reporting limit but greater than the method detection limit. Although this is not specifically a QA/QC issue, the results should be considered estimated and are qualified with a "J" unless "U" qualified due to blank contamination. In summary, the qualifications applied to the results had no overall effect on the conclusions drawn from the data, and the data, as qualified, is acceptable for the purposes of this submittal.

Construction of Site-Wide EC

Construction of the site-wide EC had been on hold since December 20, 2012 and was restarted in September 2013. Construction was completed for the season in November 2013. The site work during this reporting period included mobilization, site preparation, and installation of pavement, stone, and low permeability EC in select areas. The asphalt pavement work included areas of replacement and repair as well as the installation of a low permeability rubber membrane in one location. Palmer Paving Corporation completed the asphalt work. The stone EC was installed by H. E. Butler Construction Company in the areas noted on the field survey figure dated October 4, 2013 (**Attachment 2**). NRG performed oversight of both contractors during construction. As per NRG and as verified by CB&I, the EC completed during this reporting period has met the specifications approved in the October 2011 RAP. The progress as-built drawings of the EC completed to date were completed on January 29, 2014 and are provided in **Attachment 3**. Photographs of the work performed in the Fall of 2013 are provided in **Attachment 4**. Additional crack sealing in select asphalt paved areas will be performed in the spring. The LEP and Professional Engineer from CB&I and key environmental personnel from NRG performed a site walk on November 7, 2013 to inspect the gravel and asphalt pavement portions of the EC installed in Fall 2013. CB&I conducted select thickness measurements of the stone EC and discussed and reviewed work completed with the on-site NRG representative, Keith Shortsleeve. No deficiencies were noted.

EC Inspections

As stated in Section 6.0 of the CTDEEP-approved EC, routine inspections of the EC installed to date begin one month after completion and are performed quarterly for the first year. Since the SB-1 EC was completed in September 2011 and approximately 9,300 square yards of stone cover EC was installed in several areas in December 2012, the facility and CB&I have conducted the required periodic inspections. Additional areas of the EC will be inspected as they are completed. During this reporting period, NRG conducted routine EC inspections on September 12, 2013 and December 5, 2013. During the

inspections, the EC was observed to be in reasonable condition with no significant signs of a washout, erosion, or other failure. A modified version of Table 1 of the EC Part 2, the Engineered Control Inspection Checklist, was completed to document the inspections (**Attachment 5**). The LEP and Professional Engineer from CB&I and key environmental personnel from NRG also performed a site walk on November 7, 2013 to cursorily view the EC areas previously installed. Although this visit was not intended to be a formal EC inspection, no deficiencies were noted.

SITE SCHEDULE

Outlined below is an estimated site schedule that Middletown Power LLC, expect to follow in the next two years.

Activity	Anticipated Date
Continued Groundwater Monitoring	Q2 2014, Q4 2014
RAP Complete (i.e., construction complete)	Q4 2014
RAP Completion Report (includes Engineered Control Completion Report)	Q1 2015
Post Remediation Monitoring	2015

NRG will continue to provide updates on the status of response actions at the subject site on a semi-annual basis as requested by CTDEEP. Plans, submittals, and reports will be copied to the USEPA.

If you have any questions regarding this letter or any other matter, please do not hesitate to call.

Sincerely,

Andrew D. Walker, LEP, LSP
Project Manager
CB&I Environmental & Infrastructure

Phone: 617-589-6143
Email Address: Andrew.Walker@CBI.com

Enclosures:

Table 1 – Groundwater Gauging Data
Table 2 – Groundwater Analytical Results – November 2011 through December 2013

Figure 1 – Site Plan – Western
Figure 2 – Site Plan – Eastern

Attachment 1 – Laboratory Analytical Report and Data Validation
Attachment 2 – Stone Engineered Controls Survey dated October 4, 2013
Attachment 3 – As-Built Engineered Controls revised January 29, 2014
Attachment 4 – Photo Log – Engineered Control Construction
Attachment 5 – Engineered Control Inspection Checklists

cc: Keith Shortsleeve, Middletown Power LLC (hard copy and electronic copy)
Robert Spooner, NRG (electronic copy)
Juan Perez, USEPA (electronic copy)

TABLES

TABLE 1
GROUNDWATER GAUGING DATA *01/02/14*
(12/12/13 - 12/13/13)

Middletown Power LLC
1866 River Road
Middletown, Connecticut

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to LNAPL (Feet)	LNAPL Thickness (Feet)	Groundwater Elevation (Feet)	Notes
AOC01-MW1R	12/12/13	NA	31.98	--	--	NA	DTB = 39.45'
AOC01-MW2	12/12/13	NA	31.29	--	--	NA	DTB = 39.97'
AOC02-SB1-MW1	12/12/13	27.60	26.05	--	--	1.55	DTB = 35.85'
AOC05-MW1	12/12/13	21.27	15.57	--	--	5.70	DTB = 24.33'
AOC08-SB1-MW1	12/13/13	25.38	20.44	--	--	4.94	DTB = 32.05'
AOC09-SB1-MW1	12/13/13	27.39	25.40	--	--	1.99	DTB = 34.62'
AOC09-SB2-MW2	12/13/13	24.92	22.83	--	--	2.09	DTB = 34.58'
TW-10	12/12/13	32.60	29.03	--	--	3.57	DTB = 47.43'
TW-14	12/12/13	28.33	26.26	--	--	2.07	DTB = 46.57'
TW-17D	12/12/13	34.48	32.97	--	--	1.51	DTB = 41.82'
TW-18	12/12/13	36.92	35.01	--	--	1.91	DTB = 41.08'
TW-21D	12/12/13	34.42	32.90	--	--	1.52	DTB = 41.10'

Notes: -- = Not Detected NA = Not Available NM = Not Measured DTB = Depth to Bottom
<0.01 = Trace amount LNAPL detected

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC01-MW1R 7/9/2012 Primary	AOC01-MW1R 5/10/2013 Primary	AOC01-MW1R 12/12/2013 Primary	AOC01-MW2 7/9/2012 Primary	AOC01-MW2 5/10/2013 Primary	AOC01-MW2 12/12/2013 Primary	AOC02-SB1-MW1 11/16/2011 Primary	AOC02-SB1-MW1 7/10/2012 Primary	AOC02-SB1-MW1 5/10/2013 Primary
SVOCs (ug/L)										
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---
Anthracene	1,100,000	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---
Fluoranthene	3,700	---	---	---	---	---	---	---	---	---
Fluorene	140,000	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---
Phenanthrene	0.3	---	---	---	---	---	---	---	---	---
Pyrene	110,000	---	---	---	---	---	---	---	---	---
ETPH (mg/L)										
ETPH	NE	---	---	---	---	---	---	---	---	---
Total Metals (ug/L)										
Arsenic	4	<4.0	<2.9	<2.9	<4.0	**{6.2}**	<2.9	<4.0	<4.0	<2.9
Lead	13	<5.0	<1.7	<1.7	<5.0	<1.7	<1.7	<5.0	<5.0	<1.7
Selenium	50	12.2	10	26.9	<10	<4.8	<4.8	<10	<10	<4.8
Vanadium	NE	<10	<2.8	<2.8	<10	5.9BJ	12.4	<10	<10	3.2BJ
Zinc	123	<20	5.5BJ	<3.6BU	<20	7.5BJ	<16.5BU	<20	<20	7.4BJ

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

--- = Constituent not analyzed for.

NE = Not established

ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC02-SB1-MW1 12/12/2013 Primary	AOC05-MW1 5/9/2013 Primary	AOC05-MW1 12/12/2013 Primary	AOC08-SB1-MW1 11/16/2011 Primary	AOC08-SB1-MW1 11/16/2011 Duplicate 1	AOC08-SB1-MW1 7/10/2012 Primary	AOC08-SB1-MW1 7/10/2012 Duplicate 1	AOC08-SB1-MW1 5/9/2013 Primary
SVOCs (ug/L)									
2-Methylnaphthalene	NE	---	<0.052	<0.20	<0.20	---	<0.20	---	<0.052
Acenaphthene	NE	---	<0.014	<0.10	0.56	---	<0.10	---	0.36
Acenaphthylene	0.3	---	<0.013	<0.10	<0.10	---	<0.10	---	<0.013
Anthracene	1,100,000	---	<0.018	<0.10	<0.10	---	<0.10	---	<0.018
Benzo(a)anthracene	0.3	---	<0.030	<0.050	<0.050	---	<0.050	---	<0.030
Benzo(a)pyrene	0.3	---	<0.017	<0.10	<0.10	---	<0.10	---	<0.017
Benzo(b)fluoranthene	0.3	---	<0.024	<0.050	<0.050	---	<0.050	---	<0.024
Benzo(ghi)perylene	NE	---	<0.038	<0.10	<0.10	---	<0.10	---	<0.038
Benzo(k)fluoranthene	0.3	---	<0.059	<0.10	<0.10	---	<0.10	---	<0.059
Chrysene	NE	---	<0.073	<0.10	<0.10	---	<0.10	---	<0.073
Dibenzo(a,h)anthracene	NE	---	<0.042	<0.10	<0.10	---	<0.10	---	<0.042
Fluoranthene	3,700	---	<0.033	<0.10	<0.10	---	<0.10	---	<0.033
Fluorene	140,000	---	<0.046	<0.10	0.61	---	<0.10	---	0.060JJ
Indeno(1,2,3-cd)pyrene	NE	---	<0.046	<0.10	<0.10	---	<0.10	---	<0.046
Naphthalene	NE	---	<0.036	<0.10	<0.10	---	<0.10	---	<0.036
Phenanthrene	0.3	---	<0.013	<0.050	0.086	---	<0.050	---	<0.013
Pyrene	110,000	---	<0.036	<0.10	<0.10	---	<0.10	---	<0.036
ETPH (mg/L)									
ETPH	NE	---	<0.060	<0.080	1.31	1.39	1.07	0.91	1.23
Total Metals (ug/L)									
Arsenic	4	<2.9	---	---	<4.0	---	<4.0	---	<2.9
Lead	13	<1.7	---	---	<5.0	---	<5.0	---	<1.7
Selenium	50	5.6BJ	---	---	<10	---	<10	---	<4.8
Vanadium	NE	6.4BJ	---	---	<10	---	<10	---	<2.8
Zinc	123	<6.4BU	---	---	<20	---	<20	---	<3.6BU

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

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ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC08-SB1-MW1 5/9/2013 Duplicate 1	AOC08-SB1-MW1 12/13/2013 Primary	AOC08-SB1-MW1 12/13/2013 Duplicate 1	AOC09-SB1-MW1 11/16/2011 Primary	AOC09-SB1-MW1 7/10/2012 Primary	AOC09-SB1-MW1 5/9/2013 Primary	AOC09-SB1-MW1 12/13/2013 Primary	AOC09-SB2-MW2 11/16/2011 Primary
SVOCs (ug/L)									
2-Methylnaphthalene	NE	---	<0.20	---	---	---	<0.052	<0.20	<0.20
Acenaphthene	NE	---	2.3	---	---	---	<0.014	<0.10	0.11
Acenaphthylene	0.3	---	<0.10	---	---	---	<0.013	<0.10	<0.10
Anthracene	1,100,000	---	<0.10	---	---	---	<0.018	<0.10	<0.10
Benzo(a)anthracene	0.3	---	<0.051	---	---	---	<0.030	<0.050	<0.050
Benzo(a)pyrene	0.3	---	<0.10	---	---	---	<0.017	<0.10	<0.10
Benzo(b)fluoranthene	0.3	---	<0.051	---	---	---	<0.024	<0.050	<0.050
Benzo(ghi)perylene	NE	---	<0.10	---	---	---	<0.038	<0.10	<0.10
Benzo(k)fluoranthene	0.3	---	<0.10	---	---	---	<0.059	<0.10	<0.10
Chrysene	NE	---	<0.10	---	---	---	<0.073	<0.10	<0.10
Dibenzo(a,h)anthracene	NE	---	<0.10	---	---	---	<0.042	<0.10	<0.10
Fluoranthene	3,700	---	<0.10	---	---	---	<0.033	<0.10	<0.10
Fluorene	140,000	---	4	---	---	---	<0.046	<0.10	0.1
Indeno(1,2,3-cd)pyrene	NE	---	<0.10	---	---	---	<0.046	<0.10	<0.10
Naphthalene	NE	---	0.71	---	---	---	<0.075JBU	<0.10	<0.10
Phenanthrene	0.3	---	**{0.70}**	---	---	---	<0.013	<0.050	<0.050
Pyrene	110,000	---	0.26	---	---	---	<0.036	<0.10	<0.10
ETPH (mg/L)									
ETPH	NE	1.15	3.79	3.31	---	---	<0.061	<0.080	0.835
Total Metals (ug/L)									
Arsenic	4	---	---	---	<4.0	<4.0	---	<2.9	<4.0
Lead	13	---	---	---	<5.0	<5.0	---	---	<5.0
Selenium	50	---	---	---	<10	<10	---	---	<10
Vanadium	NE	---	---	---	<10	<10	---	---	<10
Zinc	123	---	---	---	<20	<20	---	---	42.3

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

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NE = Not established

ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC09-SB2-MW2 11/16/2011 Duplicate 1	AOC09-SB2-MW2 7/10/2012 Primary	AOC09-SB2-MW2 7/10/2012 Duplicate 1	AOC09-SB2-MW2 5/9/2013 Primary	AOC09-SB2-MW2 5/9/2013 Duplicate 1	AOC09-SB2-MW2 12/13/2013 Primary	AOC09-SB2-MW2 12/13/2013 Duplicate 1	TW-10 11/17/2011 Primary
SVOCs (ug/L)									
2-Methylnaphthalene	NE	<0.20	<0.20	<0.20	<0.052	<0.053	<0.20	<0.20	---
Acenaphthene	NE	0.31	<0.10	<0.10	<0.014	0.38	<0.10	<0.10	---
Acenaphthylene	0.3	<0.10	<0.10	<0.10	<0.013	<0.014	<0.10	<0.10	---
Anthracene	1,100,000	<0.10	<0.10	<0.10	<0.018	<0.018	<0.10	<0.10	---
Benzo(a)anthracene	0.3	<0.050	<0.050	<0.050	<0.030	<0.031	<0.050	<0.050	---
Benzo(a)pyrene	0.3	<0.10	<0.10	<0.10	<0.017	<0.018	<0.10	<0.10	---
Benzo(b)fluoranthene	0.3	<0.050	<0.050	<0.050	<0.024	<0.024	<0.050	<0.050	---
Benzo(ghi)perylene	NE	<0.10	<0.10	<0.10	<0.038	<0.038	<0.10	<0.10	---
Benzo(k)fluoranthene	0.3	<0.10	<0.10	<0.10	<0.059	<0.060	<0.10	<0.10	---
Chrysene	NE	<0.10	<0.10	<0.10	<0.073	<0.074	<0.10	<0.10	---
Dibenzo(a,h)anthracene	NE	<0.10	<0.10	<0.10	<0.042	<0.043	<0.10	<0.10	---
Fluoranthene	3,700	<0.10	<0.10	<0.10	<0.033	<0.033	<0.10	<0.10	---
Fluorene	140,000	<0.10	<0.10	<0.10	<0.046	0.53	<0.10	<0.10	---
Indeno(1,2,3-cd)pyrene	NE	<0.10	<0.10	<0.10	<0.046	<0.047	<0.10	<0.10	---
Naphthalene	NE	<0.10	<0.10	<0.10	<0.036	<0.037	<0.10	<0.10	---
Phenanthrene	0.3	<0.050	<0.050	<0.050	<0.013	<0.013	<0.050	<0.050	---
Pyrene	110,000	<0.10	<0.10	<0.10	<0.036	<0.036	<0.10	<0.10	---
ETPH (mg/L)									
ETPH	NE	---	0.27	---	0.332	---	<0.0877U	---	<0.080
Total Metals (ug/L)									
Arsenic	4	---	<4.0	---	**{7.3}**	---	<2.9	---	<4.0
Lead	13	---	<5.0	---	<1.7	---	<1.7	---	<5.0
Selenium	50	---	<10	---	<4.8	---	<4.8	---	<10
Vanadium	NE	---	<10	---	<2.8	---	<2.8	---	<10
Zinc	123	---	<20	---	<20.4U	---	**{377}**	---	<20

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

--- = Constituent not analyzed for.

NE = Not established

ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	TW-10 7/9/2012 Primary	TW-10 5/10/2013 Primary	TW-10 12/12/2013 Primary	TW-14 11/17/2011 Primary	TW-14 7/9/2012 Primary	TW-14 5/10/2013 Primary	TW-14 12/12/2013 Primary	TW-17D 11/17/2011 Primary	TW-17D 7/9/2012 Primary	TW-17D 5/10/2013 Primary	TW-17D 12/12/2013 Primary	TW-18 11/17/2011 Primary
SVOCs (ug/L)													
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1,100,000	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	3,700	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	140,000	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	110,000	---	---	---	---	---	---	---	---	---	---	---	---
ETPH (mg/L)													
ETPH	NE	<0.080	<0.060	---	<0.080	0.0956	---	---	---	---	---	---	---
Total Metals (ug/L)													
Arsenic	4	<4.0	<2.9	<2.9	<4.0	<4.0	<2.9	<2.9	<4.0	<4.0	<2.9	<2.9	<4.0
Lead	13	<5.0	<1.7	<1.7	<5.0	<5.0	<1.7	<1.7	<5.0	<5.0	<1.7	<1.7	<5.0
Selenium	50	<10	<4.8	<4.8	<10	<10	<4.8	<4.8	**{63.6}**	38.3	29.7	**{57.1}**	<10
Vanadium	NE	<10	<2.8	7.2BJ	<10	<10	<2.8	5.0BJ	762	410	408	308	50
Zinc	123	<20	4.3BJ	<7.8BU	<20	<20	16.7BJ	<11.8BU	<20	<20	11.7BJ	<10.9BU	<20

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

--- = Constituent not analyzed for.

NE = Not established

ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

Table 2

Groundwater Analytical Results - November 2011 through December 2013

Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	TW-18 11/17/2011 Duplicate 1	TW-18 7/9/2012 Primary	TW-18 7/9/2012 Duplicate 1	TW-18 5/9/2013 Primary	TW-18 5/9/2013 Duplicate 1	TW-18 12/12/2013 Primary	TW-18 12/12/2013 Duplicate 1	TW-21D 11/17/2011 Primary	TW-21D 7/9/2012 Primary	TW-21D 5/10/2013 Primary	TW-21D 12/12/2013 Primary
SVOCs (ug/L)												
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1,100,000	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	3,700	---	---	---	---	---	---	---	---	---	---	---
Fluorene	140,000	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	0.3	---	---	---	---	---	---	---	---	---	---	---
Pyrene	110,000	---	---	---	---	---	---	---	---	---	---	---
ETPH (mg/L)												
ETPH	NE	---	---	---	---	---	---	---	---	---	---	---
Total Metals (ug/L)												
Arsenic	4	<4.0	4	**{5.0}**	<2.9	<2.9	<2.9	<2.9	<4.0	<4.0	<2.9	<2.9
Lead	13	7.7	<5.0	<5.0	<1.7	<1.7	<1.7	<1.7	<5.0	<5.0	<1.7	<1.7
Selenium	50	<10	<10	<10	<4.8	<4.8	<4.8	<4.8	**{77.0}**	24.7	26	43.1
Vanadium	NE	53.7	39.3	59.6	11	11.8	10.6	10.2	<10	10.4	17.3	12.3
Zinc	123	23.4	20.9	21.5	<6.7BU	<10.2BU	<9.1BU	<5.6BU	<20	<20	9.1BJ	<6.7BU

Notes:

SWPC = Connecticut Surface Water Protection Criteria.

--- = Constituent not analyzed for.

NE = Not established

ug/L = micrograms per liter

mg/L = milligrams per liter

{Bold} exceeds least stringent applicable criteria

J = Estimated value based on validation.

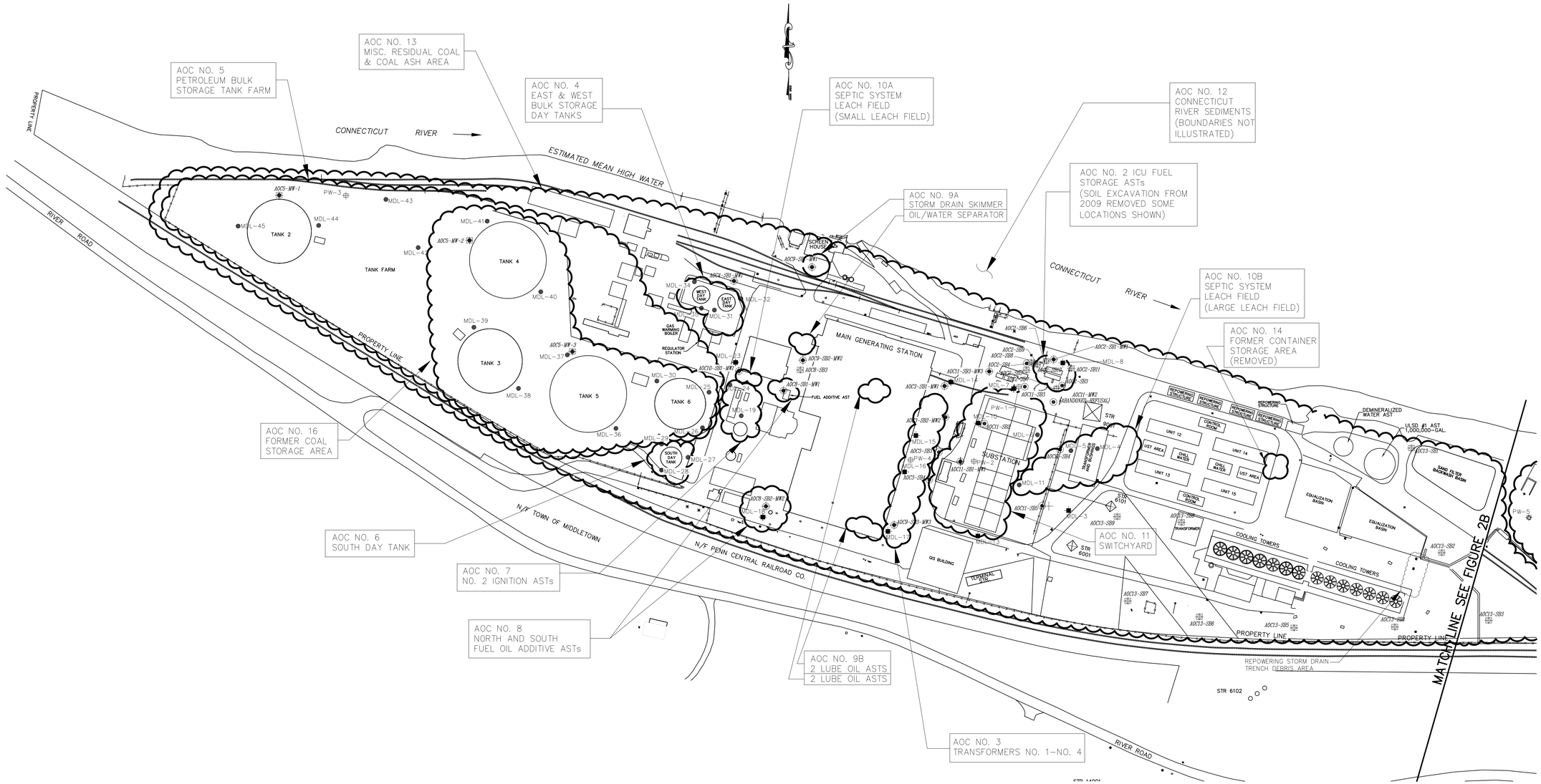
U = Below detection limit as determined by validator

B = Analyte found in associated method blank as determined by validator

FIGURES

OFFICE Canton, MA

DRAWING NUMBER 1009634004-01



LEGEND:

OAP–16, MDL–1, NRG–SB–1 ●	BORING LOCATIONS FROM PHASE II & SUPPLEMENTAL INVESTIGATION
TW–14 ⊕	EXISTING MONITORING WELL LOCATIONS (RCRA COMPLIANCE MONITORING)
AOC3–SB9 ◉	LOCATION OF PHASE III SOIL BORINGS
AOC7–SB–1/MW1 ◉	LOCATION OF PHASE III SOIL BORING/MONITORING WELL
MDL–13 ■	PROPOSED SOIL BORING FROM PHASE II INVESTIGATION (PHYSICAL RESTRAINTS OR UNDERGROUND UTILITY INTERFERENCE PREVENTED PLACEMENT OF BORING).
PW–1 ⊕	PRODUCTION WELL
ME–SED–03 ▲	PHASE II SEDIMENT SAMPLE LOCATION (1999)
AOC7A–HA4 ◔	SUPPLEMENTAL PHASE III HAND AUGER SOIL SAMPLE LOCATION
AOC1–SB2 ⊞	SHAW INSTALLED SOIL BORING
AOC1–MW1 ◉	SHAW INSTALLED MONITORING WELL
NRG–G ◒	MARCH 2008 SEDIMENT SAMPLE LOCATION
–×–×–×–×–×–	EXISTING CHAIN LINK FENCE
⌒⌒⌒	APPROXIMATE LIMITS OF AREA OF CONCERN

GRAPHIC SCALE
120' 0 60' 120' 240'
(IN FEET)
1 inch = 120 ft.

NOTES:

1.) "SITE PLAN–NRG MIDDLETOWN GENERATING STATION, MIDDLETOWN, CONNECTICUT", PREPARED BY NAFIS & YOUNG ENGINEERS, INC. LOCATED AT 1355 MIDDLETOWN AVENUE, NORTHFORD, CONNECTICUT. SCALE 1"=40', SHEET NO. 1, DATED NOVEMBER 13, 2003.

2.) "COMPILATION PLAN–MIDDLETOWN GENERATING STATION SEPARATION PLAN SHOWING LAND AND EASEMENT TO BE CONVEYED AND EASEMENT TO BE RESERVED MIDDLETOWN, CONNECTICUT" BY NORTHEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT AND POWER COMPANY. SCALE 1"=100', DRAWING NO. 21866 SHEET 1 AND 21866 SHEET 2. DATED 9–15–98.

3.) SEDIMENT SAMPLE LOCATION ME–SED–12 COLLECTED DURING THE PHASE II INVESTIGATION IN 1999 IS LOCATED 200 TO 300 FEET UPSTREAM OF WESTERN PROPERTY BOUNDARY.

4.) WESTERN PORTION OF SITE INCLUDES AOC2, AOC3, AOC4, AOC5, AOC6, AOC7, AOC8, AOC9A, AOC9B, AOC10A, AOC10B, AOC11, AOC13, AOC 14 AND AOC16.

5.) PRODUCTION WELL LOCATIONS FROM NORTHEAST UTILITIES SERVICE COMPANY RCRA "PART B" PLAN DATED MAY 10, 1985.

REFERENCES:

1] "AREAS OF CONCERN–EASTERN PORTION OF SITE" PREPARED BY METCALF & EDDY, DATED AUG. 2004. DWG# CZMID003A.DWG 2] "SAMPLE LOCATION PLAN–EASTERN PORTION OF SITE" PREPARED BY METCALF AND EDDY, DATED AUG. 2004. DWG# CZMID002A.DWG
2] SOIL BORING, MONITORING WELL, TOPOGRAPHIC AND WETLAND DELINEATION SURVEY BY A–PLUS CONSTRUCTION DATED MARCH 3, 2008, DWG: TOPO_SURVEY_030308

SHAW ENVIRONMENTAL, INC.
A CB&I COMPANY

DESIGNED BY:	150 ROYALL STREET CANTON, MASSACHUSETTS (617) 589-5111
DRAWN BY: CD	FIGURE 1 SITE PLAN - WESTERN NRG ENERGY, INC - MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT
CHECKED BY: AW	

APPROVED BY:	DATE:	SCALE:	DRAWING NO.	SHEET NO.
AW	02/26/13	AS SHOWN	1009634004–01	--

File: N:\MISC\W.R.G\Middletown\1009634004-01.dwg Layout: SITEPLAN-A User: chris.desista Apr 03, 2013 - 9:56am

VERIFY SCALE 0 1"

OFFICE Canton, MA | DRAWING NUMBER 1009634004-01

AOC NO. 13
MISC. RESIDUAL
COAL & COAL
ASH AREA

AOC NO. 15
FORMER RCRA BASIN

AOC NO. 1
FORMER ASH SETTLING BASINS/
FORMER COAL ASH DISPOSAL AREA

DEMINERALIZED WATER AST

ULSD #1 AST 1,000,000-GAL.

SAND FILTER BACKWASH BASIN

EQUALIZATION BASIN

EQUALIZATION BASIN 2A

WASTEWATER TREATMENT BUILDING

FORMER RCRA EQUALIZATION BASIN EB-2

NG TOWERS

MATCH LINE SEE FIGURE NO. 2A

PROPERTY LINE

CONNECTICUT RIVER

ESTIMATED MEAN HIGH WATER

SETTLING BASIN #1

SETTLING BASIN #2

INTERMITTENT STREAM

PENN CENTRAL RAILROAD CO.
N/F

RIVER ROAD

N/F
UNITED AIRCRAFT CORP.

N/F
UNITED AIRCRAFT CORP.
(PRATT & WHITNEY)

ME-SED-01
ME-SED-02
ME-SED-03

AOC13-SB1
AOC13-SB2
AOC13-SB3
AOC13-SB4
AOC1-SB1
AOC1-SB2
AOC1-SB3
AOC1-SB4
AOC1-SB5
AOC1-SB6
AOC1-SB7BR
AOC1-SB8
AOC1-SB5A
AOC1-MW1
AOC1-MW1R
AOC1-MW2

TW-14 TW-15 TW-16 TW-17 TW-17D TW-18 TW-19 TW-20 TW-21D TW-27D

NRG SB-1 NRG SB-2 NRG SB-3 NRG SB-4 NRG SB-5 NRG SB-6 NRG SB-7 NRG SB-8 NRG SB-9 NRG SB-10 NRG SB-11 NRG SB-12 NRG SB-13 NRG SB-14 NRG SB-15 NRG SB-16 NRG SB-17 NRG SB-18 NRG SB-19 NRG SB-20 NRG SB-21 NRG SB-22 NRG SB-23 NRG SB-24

OAP-1 OAP-2 OAP-3 OAP-4 OAP-5 OAP-6 OAP-7 OAP-8

MDL-1 MDL-2 MDL-3

P-3 P-4 PW-5

SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-08 SP-09 SP-10

W1-1 W1-16 W1-32

GRAPHIC SCALE
100' 0 50' 100' 200'
(IN FEET)
1 inch = 100 ft.

LEGEND:

OAP-6, MDL-1, NRG-SB-1	BORING LOCATIONS FROM PHASE II & SUPPLEMENTAL INVESTIGATION
TW-14	EXISTING MONITORING WELL LOCATIONS (RCRA COMPLIANCE MONITORING)
AOC3-SB9	LOCATION OF PHASE III SOIL BORINGS
AOC7-SB-1/MW1	LOCATION OF PHASE III SOIL BORING/MONITORING WELL
ME-SED-03	PHASE II SEDIMENT SAMPLE LOCATION
AOC7A-HA4	SUPPLEMENTAL PHASE III HAND AUGER SOIL SAMPLE LOCATION
MDL-1/OAP-3	PROPOSED SOIL BORING FROM PHASE II INVESTIGATION (PHYSICAL RESTRAINTS OR UNDERGROUND UTILITY INFERENCE PREVENTED PLACEMENT OF BORING).
PW-5	PRODUCTION WELL
AOC1-SB2	SHAW INSTALLED SOIL BORING
AOC1-MW1R	SHAW INSTALLED MONITORING WELL
AOC1-MW1	WELL REPLACED
SP-1	WETLAND SAMPLE POINT
W1-1	WETLAND POINT
	INTERMITTENT STREAM
	EXISTING CHAIN LINK FENCE
	WETLAND DELINEATION LINE
	APPROXIMATE LIMITS OF AREA OF CONCERN

NOTES:

1.) "SITE PLAN-NRG MIDDLETOWN GENERATING STATION, MIDDLETOWN, CONNECTICUT", PREPARED BY NAFIS & YOUNG ENGINEERS, INC. LOCATED AT 1355 MIDDLETOWN AVENUE, NORTHFORD, CONNECTICUT. SCALE 1"=40', SHEET NO. 1, DATED NOVEMBER 13, 2003.

2.) "COMPILATION PLAN-MIDDLETOWN GENERATING STATION SEPARATION PLAN SHOWING LAND AND EASEMENT TO BE CONVEYED AND EASEMENT TO BE RESERVED MIDDLETOWN, CONNECTICUT" BY NORTHEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT AND POWER COMPANY. SCALE 1"=100', DRAWING NO. 21866 SHEET 1 AND 21866 SHEET 2. DATED 9-15-98.

3.) SEDIMENT SAMPLE LOCATION ME-SED-12 COLLECTED DURING THE PHASE II INVESTIGATION IN 1999 IS LOCATED 200 TO 300 FEET UPSTREAM OF WESTERN PROPERTY BOUNDARY.

4.) EASTERN PORTION OF SITE INCLUDES AOC1 AND AOC15.

5.) PRODUCTION WELL LOCATIONS FROM NORTHEAST UTILITYS SERVICE COMPANY RCRA "PART B" PLAN DATED MAY 20, 1985.

6.) MONITORING WELL AOC1-MW1R AND AOC1-MW2 LOCATIONS ARE APPROXIMATE, AND ARE NOT YET SURVEYED.

REFERENCES:
1] "AREAS OF CONCERN-EASTERN PORTION OF SITE" PREPARED BY METCALF & EDDY. DATED AUG. 2004. DWG# CZMID003A.DWG 2] "SAMPLE LOCATION PLAN-EASTERN PORTION OF SITE" PREPARED BY METCALF AND EDDY. DATED AUG. 2004. DWG# CZMID002A.DWG
2] WETLANDS DELINEATION PERFORMED BY TONY FROONJIAN, WETLAND SCIENTIST, SHAW ENVIRONMENTAL.
3] SOIL BORING, MONITORING WELL, TOPOGRAPHIC, AND WETLAND DELINEATION SURVEY BY A-PLUS CONSTRUCTION DATED MARCH 3, 2008. DWG: TOPO_SURVEY_030308
4] "STOCK PILE VOLUME PLAN" BY A-PLUS CONSTRUCTION DATED OCTOBER, 2008.

SHAW ENVIRONMENTAL, INC.
A CB&I COMPANY

150 ROYALL STREET
CANTON, MASSACHUSETTS
(617) 589-5111

FIGURE 2
SITE PLAN - EASTERN
NRG ENERGY, INC - MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:	SCALE:	DRAWING NO.	SHEET NO.
--	CD	JM	AW	02/26/13	AS SHOWN	1009634004-01	--

VERIFY SCALE 0 1"

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ATTACHMENT 1

Data Validation Worksheet

Project Name : NRG Middletown, CT

Job Number : 1009634022

Prepared By: Dale Dailey

Date : 1/13/2014

Reviewed By: Kim Napier

Date : 1/15/2014

Analyte Group :	**Analytical Method :**
Metals	SW846 6010C
ETPH	CT-ETPH 7/06
SVOCs	SW846 8270D

Completed Reasonable Confidence Protocols Certification Form included: Yes

Were all Reasonable Confidence Protocol QA/QC Criteria Followed? Yes (#1B marked "N/A", #6 and #7 Marked "No")

Accutest laboratory certifies that all analysis were performed within method specifications and recommends that the report is to be used in its entirety: Yes

Laboratory ID No. : MC27122

Chain of Custody: Included in Data Package ? Yes

Is it Complete ? Yes

Allowable Holding Times :

Method	Analysis	Collection Date	Extraction Date	Analysis Date
SW846 6010 C	Metals	12/12, 12/13/13		12/19/2013
CT-ETPH 7/06	ETPH	12/12, 12/13		12/24/2013
SW846 8270D	SVOCs	12/12, 12/13		12/30/2013

Sample Collection Date : 12/12/13-12/13/13

Sample temperature within QC limits: Yes ~~(Temperature not listed)~~ 0.8 deg. C

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

Laboratory Control Samples

LCS/LCSD

Are all laboratory control sample recoveries within the QC limits ? Yes
If No, list sample ID and compound where limit was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Equipment Field Blank ID : 12/30/2013
Trip Blank ID : NA
Method Blank: 12/23/2013
Spike Blank: 12/23/2013
EB-1 detections of ZN (5.8 ug/l) & CT-ETPH 0.0842 mg/l.
Zinc qualified U for the majority of the samples where results < 5X blank amount
CT-ETPH qualified U for AOC9SB2-MW2 since results < 5X blank amount

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: None

Notes
RPD(s) for Serial Dilution for Arsenic, Selenium are outside control limits for sample MP22287-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
No qualification necessary

RPD(s) for Serial Dilution for Selenium, Zinc are outside control limits for sample MP22288-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
No qualification necessary
Continuing calibration check standard for MSR1331-CC1261 for Fluoranthene, Pyrene exceed 20% Difference. This check standard met RCP criteria.
No qualification necessary
~~Continuing calibration check standard for MSR1331-CC1261 for Fluoranthene, Pyrene exceed 20% Difference. This check standard met RCP criteria.~~

Results flagged by lab with "B" qualified as estimated unless U qualified due to blank contamination.

Sample ID correction

Reviewed By:
Kim Napier

Accutest Laboratories

Report of Analysis

4.2
4

Client Sample ID:	TW-14	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-2	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	5.0 B J	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	11.8 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TW-10	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-3	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	7.2 B J	10	2.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	7.8 B U	20	0.50	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

4.4
4

Client Sample ID:	AOC1-MW2	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-4	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	12.4	10	2.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	16.5 B U	20	0.50	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	AOC1-MW1R	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-5	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	26.9	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	2.8 U	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	3.6 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

4.6
4

Client Sample ID:	TW-18	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-6	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis

Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	10.6	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	9.1 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TW-18 DUP	Date Sampled:	12/12/13
Lab Sample ID:	MC27122-7	Date Received:	12/13/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

4.7 4

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	10.2	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	5.6 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TW-17D		
Lab Sample ID:	MC27122-8	Date Sampled:	12/12/13
Matrix:	AQ - Ground Water	Date Received:	12/13/13
		Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

4.8

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	57.1	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	308	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	10.9 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TW-21D		
Lab Sample ID:	MC27122-9	Date Sampled:	12/12/13
Matrix:	AQ - Ground Water	Date Received:	12/13/13
		Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis Val Q

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	43.1	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	12.3	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	6.7 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	AOC9-SB2-MW2		
Lab Sample ID:	MC27122-12	Date Sampled:	12/13/13
Matrix:	AQ - Ground Water	Date Received:	12/13/13
Method:	CT-ETPH 7/06 SW846 3510C	Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659292.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Val Q

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.0877 U	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	AOC2-SB1-MW1		
Lab Sample ID:	MC27122-16	Date Sampled:	12/12/13
Matrix:	AQ - Ground Water	Date Received:	12/13/13
		Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	5.6 B J	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	6.4 B J	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	6.4 B U	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

New England ACCUTEST LABORATORIES

01/03/14

Technical Report for

Shaw Environmental & Infrastructure

NRG Middletown, Middletown, CT

1009634015-02

Accutest Job Number: MC27122

Sampling Dates: 12/12/13 - 12/13/13

Report to:

Shaw Environmental & Infrastructure
100 Technology Center Drive
Stoughton, MA 02072
andrew.walker@shawgrp.com; raymond.cadorette@shawgrp.com

ATTN: Andrew Walker

Total number of pages in report: **62**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

Shaw Environmental & Infrastructure

Job No: MC27122

NRG Middletown, Middletown, CT
Project No: 1009634015-02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC27122-1	12/12/13	08:10	DL	12/13/13	AQ	Ground Water	AOC5-MW1
MC27122-2	12/12/13	09:10	DL	12/13/13	AQ	Ground Water	TW-14
MC27122-3	12/12/13	10:10	DL	12/13/13	AQ	Ground Water	TW-10
MC27122-4	12/12/13	11:10	DL	12/13/13	AQ	Ground Water	AOC1-MW2
MC27122-5	12/12/13	12:05	DL	12/13/13	AQ	Ground Water	AOC1-MW1R
MC27122-6	12/12/13	12:55	DL	12/13/13	AQ	Ground Water	TW-18
MC27122-7	12/12/13	12:55	DL	12/13/13	AQ	Ground Water	TW-18 DUP
MC27122-8	12/12/13	13:55	DL	12/13/13	AQ	Ground Water	TW-17D
MC27122-9	12/12/13	15:00	DL	12/13/13	AQ	Ground Water	TW-21D
MC27122-10	12/13/13	07:45	DL	12/13/13	AQ	Ground Water	AOC9-SB1-MW1
MC27122-11	12/13/13	07:00	DL	12/13/13	AQ	Equipment Blank	EB-1
MC27122-12	12/13/13	08:40	DL	12/13/13	AQ	Ground Water	AOC9-SB2-MW2
MC27122-13	12/13/13	08:40	DL	12/13/13	AQ	Ground Water	AOC9-SB2-MW2 DUP

Sample Summary
(continued)

Shaw Environmental & Infrastructure

Job No: MC27122

NRG Middletown, Middletown, CT
Project No: 1009634015-02

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC27122-14	12/13/13	09:40	DL	12/13/13	AQ	Ground Water	AOC8-SB1-MW1
MC27122-15	12/13/13	09:40	DL	12/13/13	AQ	Ground Water	AOC8-SB1-MW1 DUP
MC27122-16	12/12/13	15:55	DL	12/13/13	AQ	Ground Water	AOC2-SB1-MW1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shaw Environmental & Infrastructure	**Job No**	MC27122
Site:	NRG Middletown, Middletown, CT	**Report Date**	1/3/2014 12:48:24 PM

16 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 12/12/2013 and 12/13/2013 and were received at Accutest on 12/13/2013 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC27122. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 8270D BY SIM

Matrix: AQ **Batch ID:** OP36274

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Continuing calibration check standard for MSR1331-CC1261 for Fluoranthene, Pyrene exceed 20% Difference. This check standard met RCP criteria.

Extractables by GC By Method CT-ETPH 7/06

Matrix: AQ **Batch ID:** OP36246

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP22287

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC27121-3SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Selenium are outside control limits for sample MP22287-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP22287-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

Matrix: AQ **Batch ID:** MP22288

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC27129-6SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Selenium, Zinc are outside control limits for sample MP22288-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC27122).

Summary of Hits

Job Number: MC27122
Account: Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT
Collected: 12/12/13 thru 12/13/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27122-1	**AOC5-MW1**					
No hits reported in this sample.						
MC27122-2	**TW-14**					
Vanadium		5.0 B	10	2.8	ug/l	SW846 6010C
Zinc		11.8 B	20	0.50	ug/l	SW846 6010C
MC27122-3	**TW-10**					
Vanadium		7.2 B	10	2.8	ug/l	SW846 6010C
Zinc		7.8 B	20	0.50	ug/l	SW846 6010C
MC27122-4	**AOC1-MW2**					
Vanadium		12.4	10	2.8	ug/l	SW846 6010C
Zinc		16.5 B	20	0.50	ug/l	SW846 6010C
MC27122-5	**AOC1-MW1R**					
Selenium		26.9	10	4.8	ug/l	SW846 6010C
Zinc		3.6 B	20	0.50	ug/l	SW846 6010C
MC27122-6	**TW-18**					
Vanadium		10.6	10	2.8	ug/l	SW846 6010C
Zinc		9.1 B	20	0.50	ug/l	SW846 6010C
MC27122-7	**TW-18 DUP**					
Vanadium		10.2	10	2.8	ug/l	SW846 6010C
Zinc		5.6 B	20	0.50	ug/l	SW846 6010C
MC27122-8	**TW-17D**					
Selenium		57.1	10	4.8	ug/l	SW846 6010C
Vanadium		308	10	2.8	ug/l	SW846 6010C
Zinc		10.9 B	20	0.50	ug/l	SW846 6010C
MC27122-9	**TW-21D**					
Selenium		43.1	10	4.8	ug/l	SW846 6010C
Vanadium		12.3	10	2.8	ug/l	SW846 6010C
Zinc		6.7 B	20	0.50	ug/l	SW846 6010C

Summary of Hits

Job Number: MC27122
Account: Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT
Collected: 12/12/13 thru 12/13/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27122-10	**AOC9-SB1-MW1**					
No hits reported in this sample.						
MC27122-11	**EB-1**					
CT-ETPH (C9-C36)		0.0842	0.076		mg/l	CT-ETPH 7/06
Zinc		5.8 B	20	0.50	ug/l	SW846 6010C
MC27122-12	**AOC9-SB2-MW2**					
CT-ETPH (C9-C36)		0.0877	0.080		mg/l	CT-ETPH 7/06
Zinc		377	20	0.50	ug/l	SW846 6010C
MC27122-13	**AOC9-SB2-MW2 DUP**					
No hits reported in this sample.						
MC27122-14	**AOC8-SB1-MW1**					
Acenaphthene		2.3	0.10		ug/l	SW846 8270D BY SIM
Fluorene		4.0	0.10		ug/l	SW846 8270D BY SIM
Naphthalene		0.71	0.10		ug/l	SW846 8270D BY SIM
Phenanthrene		0.70	0.051		ug/l	SW846 8270D BY SIM
Pyrene		0.26	0.10		ug/l	SW846 8270D BY SIM
CT-ETPH (C9-C36)		3.79	0.080		mg/l	CT-ETPH 7/06
MC27122-15	**AOC8-SB1-MW1 DUP**					
CT-ETPH (C9-C36)		3.31	0.080		mg/l	CT-ETPH 7/06
MC27122-16	**AOC2-SB1-MW1**					
Selenium		5.6 B	10	4.8	ug/l	SW846 6010C
Vanadium		6.4 B	10	2.8	ug/l	SW846 6010C
Zinc		6.4 B	20	0.50	ug/l	SW846 6010C

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AOC5-MW1
Lab Sample ID: MC27122-1
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36275.D	1	12/30/13	KR	12/18/13	OP36274	MSR1331
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	40%		30-130%
321-60-8	2-Fluorobiphenyl	43%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC5-MW1
Lab Sample ID: MC27122-1
Matrix: AQ - Ground Water
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659286.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TW-14
Lab Sample ID: MC27122-2
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	5.0 B	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	11.8 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: TW-10
Lab Sample ID: MC27122-3
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	7.2 B	10	2.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	7.8 B	20	0.50	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: AOC1-MW2
Lab Sample ID: MC27122-4
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	12.4	10	2.8	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	16.5 B	20	0.50	ug/l	1	12/19/13	12/20/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22287

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: AOC1-MW1R
Lab Sample ID: MC27122-5
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	26.9	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	2.8 U	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	3.6 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: TW-18
Lab Sample ID: MC27122-6
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	10.6	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	9.1 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: TW-18 DUP
Lab Sample ID: MC27122-7
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	10.2	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	5.6 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: TW-17D
Lab Sample ID: MC27122-8
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	57.1	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	308	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	10.9 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: TW-21D
Lab Sample ID: MC27122-9
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	43.1	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	12.3	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	6.7 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: AOC9-SB1-MW1
Lab Sample ID: MC27122-10
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36276.D	1	12/30/13	KR	12/18/13	OP36274	MSR1331
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%		30-130%
321-60-8	2-Fluorobiphenyl	47%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC9-SB1-MW1
Lab Sample ID: MC27122-10
Matrix: AQ - Ground Water
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659288.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AOC9-SB1-MW1		
Lab Sample ID:	MC27122-10	**Date Sampled:**	12/13/13
Matrix:	AQ - Ground Water	**Date Received:**	12/13/13
		Percent Solids:	n/a
Project:	NRG Middletown, Middletown, CT		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: EB-1
Lab Sample ID: MC27122-11
Matrix: AQ - Equipment Blank
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36277.D	1	12/30/13	KR	12/18/13	OP36274	MSR1331
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	101%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: EB-1
Lab Sample ID: MC27122-11
Matrix: AQ - Equipment Blank
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659290.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.0842	0.076	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	91%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: EB-1
Lab Sample ID: MC27122-11
Matrix: AQ - Equipment Blank
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	2.8 U	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	5.8 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: AOC9-SB2-MW2
Lab Sample ID: MC27122-12
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36288.D	1	12/30/13	KR	12/18/13	OP36274	MSR1332
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	96%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC9-SB2-MW2
Lab Sample ID: MC27122-12
Matrix: AQ - Ground Water
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659292.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	0.0877	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC9-SB2-MW2
Lab Sample ID: MC27122-12
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	4.8 U	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	2.8 U	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	377	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: AOC9-SB2-MW2 DUP
Lab Sample ID: MC27122-13
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36289.D	1	12/30/13	KR	12/18/13	OP36274	MSR1332
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.050	ug/l	
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	61%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC8-SB1-MW1
Lab Sample ID: MC27122-14
Matrix: AQ - Ground Water
Method: SW846 8270D BY SIM SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R36290.D	1	12/30/13	KR	12/18/13	OP36274	MSR1332
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	2.3	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	4.0	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	0.71	0.10	ug/l	
85-01-8	Phenanthrene	0.70	0.051	ug/l	
129-00-0	Pyrene	0.26	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC8-SB1-MW1
Lab Sample ID: MC27122-14
Matrix: AQ - Ground Water
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659296.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	3.79	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC8-SB1-MW1 DUP
Lab Sample ID: MC27122-15
Matrix: AQ - Ground Water
Method: CT-ETPH 7/06 SW846 3510C
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/13/13
Date Received: 12/13/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BC659298.D	1	12/24/13	ZB	12/17/13	OP36246	GBC3549
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	3.31	0.080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		50-149%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AOC2-SB1-MW1
Lab Sample ID: MC27122-16
Matrix: AQ - Ground Water
Project: NRG Middletown, Middletown, CT

Date Sampled: 12/12/13
Date Received: 12/13/13
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9 U	4.0	2.9	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Lead	1.7 U	5.0	1.7	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Selenium	5.6 B	10	4.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Vanadium	6.4 B	10	2.8	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]
Zinc	6.4 B	20	0.50	ug/l	1	12/19/13	12/19/13	SA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA16585
(2) Prep QC Batch: MP22288

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC27122

Client / Reporting Information

Company Name: A CB&I Company
Shaw Environmental, Inc.
Street Address: 150 Royall Street
City State Zip: Canton, MA 02021
Project Contact E-mail: Raymond.Cadorette@CBI.com
Phone # Fax #: 617-589-6102
Sampler(s) Name(s) Phone #: Daniel Leahy 617-212-8276

Project Information

Project Name: NRG Middletown
Street: River Road
City: Middletown, CT
Project#: 1009634015-02
Client PO#: NRG ACCOUNT PRICING
Project Manager: Andrew Walker

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	EPA 8270 SIM CPAH (including 2-Methylnaphthalene)	ETPH (CT DEEP Method)	EPA 6010C Metals (As, Pb, Se, V, Zn)	EPA 6010C (Arsenic Only)	LAB USE ONLY
-1	AOC5-MW1		12/12/13	0810	DL	GW	4					4					2	2			
-2	TW-14		12/12/13	0910			1			1									1		
-3	TW-10		12/12/13	1010			1			1									1		
-4	AOC1-MW2		12/12/13	1110			1			1									1		
-5	AOC1-MW1R		12/12/13	1205			1			1									1		
-6	TW-18		12/12/13	1255			1			1									1		
-7	TW-18 DUP		12/12/13	1255			1			1									1		
-8	TW-17D		12/12/13	1355			1			1									1		
-9	TW-21D		12/12/13	1500			1			1									1		
-10	AOC9-SB1-MW1		12/13/13	0745			5			1		4					2	2		1		5A, 18C,
-11	EB-1		12/13/13	0700			5			1		4					2	2	1		
-12	AOC9-SB2-MW2		12/13/13	0840	↓	↓	5			1		4					2	2	1		

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [x] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format GISKey
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

QA/QC reporting level: CTDEP RCP

Comments / Special Instructions

Email GISKey formatted EDD & PDF to: Catherine.Joe@CBI.com and Raymond.Cadorette@CBI.com.

Detection limits must meet CT SWPC standards, report metals to MDL.

Refer to site specific QAPP.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler	Date Time	Received By	Relinquished By	Date Time	Received By
1		12/13/13 1030		2 B.C	12-13-13 11:30	2
3		12/13/13 14:30		4	Date Time:	4
5	Relinquished by:	Date Time:	5	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp. 0.8

MC27122: Chain of Custody
Page 1 of 2

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking # | Bottle Order Control #

Accutest Quote # | Accutest Job # MC27122

Client / Reporting Information

Company Name: A CB&I Company
Shaw Environmental, Inc.
Street Address: 150 Royall Street
City / State / Zip: Canton, MA 02021
Project Contact / E-mail: Raymond.Cadorette@CBI.com
Phone # / Fax #: 617-589-6102
Sampler(s) Name(s) / Phone #: Daniel Leahy 617-212-8276

Project Information

Project Name: NRG Middletown
Street: River Road
City: Middletown, CT
Project#: 1009634015-02
Client PO#: NRG ACCOUNT PRICING
Project Manager: Andrew Walker

Billing Information (If different from Report to)

Company Name
Street Address
City / State / Zip
Attention: PO#

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Preserved Bottles	EPA 8270 SIM CPAH Including 2-Methylnaphthalene	ETPH (CT DEEP Method)	EPA 6010C Metals (As, Pb, Se, V, Zn)	EPA 6010C (Arsenic On Ly)
-13	AOC9-SB2-MW2 DUP		12/13/13	0840	DL	GW	2	None	2			
-14	AOC8-SB1-MW1		12/13/13	0940			4	None	2	2		
-15	AOC8-SB1-MW1 DUP		12/13/13	0940			3	None		2		

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

LAB USE ONLY

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [x] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format GISKey
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Email GISKey formatted EDD & PDF to: Catherine.Joe@CBI.com and Raymond.Cadorette@CBI.com.

Detection limits must meet CT SWPC standards, report metals to MDL.

Refer to site specific QAPP.

QA/QC reporting level: CTDEP RCP

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		12/13/13 1700	1	2	12/13/13 17:50	2
3		12/13/13 14:30	3	4		4
5			5			

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 0.8

Reasonable Confidence Protocol
Laboratory Analysis
QA/QC Certification Form

Laboratory Name: **Accutest New England** **Client:** **Shaw Environmental & Infrastructure**

Project Location: **NRG Middletown, Middletown, CT** **Project Number:** **1009634015-02**

Sampling Date(s): **12/12/2013**

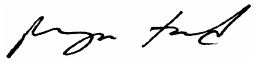
Laboratory Sample ID(s): MC27122-1, MC27122-2, MC27122-3, MC27122-4, MC27122-5, MC27122-6, MC27122-7, MC27122-8, MC27122-9, MC27122-10, MC27122-11, MC27122-12, MC27122-13, MC27122-14, MC27122-15, MC27122-16

Methods: CT-ETPH 7/06, SW846 6010C, SW846 8270D BY SIM

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes ☑ No ☐
1A	Where all the method specified preservation and holding time requirements met?	Yes ☑ No ☐
1B	VPH and EPH mehods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes ☐ No ☐ NA ☑
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes ☑ No ☐
3	Were samples received at an appropriate temperature (<6° C)?	Yes ☑ No ☐
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes ☑ No ☐
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes ☑ No ☐
	b) Were these reporting limits met?	Yes ☑ No ☐
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes ☐ No ☑
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes ☐ No ☑

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature:  Position: Lab Director

Printed Name: Reza Tand Date: 1/3/2014

Accutest New England

Internal Sample Tracking Chronicle

Shaw Environmental & Infrastructure

Job No: MC27122

NRG Middletown, Middletown, CT
Project No: 1009634015-02

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27122-1	Collected: 12-DEC-13 08:10 By: DL AOC5-MW1			Received: 13-DEC-13	By:	
MC27122-1	CT-ETPH 7/06	24-DEC-13 02:06	ZB	17-DEC-13	BJ	BCTTPH
MC27122-1	SW846 8270D BY SIM	30-DEC-13 14:18	KR	18-DEC-13	FC	B8270SIMPAH
MC27122-2	Collected: 12-DEC-13 09:10 By: DL TW-14			Received: 13-DEC-13	By:	
MC27122-2	SW846 6010C	19-DEC-13 23:50	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-3	Collected: 12-DEC-13 10:10 By: DL TW-10			Received: 13-DEC-13	By:	
MC27122-3	SW846 6010C	20-DEC-13 00:05	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-4	Collected: 12-DEC-13 11:10 By: DL AOC1-MW2			Received: 13-DEC-13	By:	
MC27122-4	SW846 6010C	20-DEC-13 00:10	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-5	Collected: 12-DEC-13 12:05 By: DL AOC1-MW1R			Received: 13-DEC-13	By:	
MC27122-5	SW846 6010C	19-DEC-13 20:14	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-6	Collected: 12-DEC-13 12:55 By: DL TW-18			Received: 13-DEC-13	By:	
MC27122-6	SW846 6010C	19-DEC-13 20:19	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-7	Collected: 12-DEC-13 12:55 By: DL TW-18 DUP			Received: 13-DEC-13	By:	
MC27122-7	SW846 6010C	19-DEC-13 20:24	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-8	Collected: 12-DEC-13 13:55 By: DL TW-17D			Received: 13-DEC-13	By:	
MC27122-8	SW846 6010C	19-DEC-13 20:29	SA	19-DEC-13	EM	AS,PB,SE,V,ZN

Internal Sample Tracking Chronicle

Shaw Environmental & Infrastructure

Job No: MC27122

NRG Middletown, Middletown, CT
Project No: 1009634015-02

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27122-9	Collected: 12-DEC-13 15:00 By: DL TW-21D			Received: 13-DEC-13	By:	
MC27122-9	SW846 6010C	19-DEC-13 20:34	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-10	Collected: 13-DEC-13 07:45 By: DL AOC9-SB1-MW1			Received: 13-DEC-13	By:	
MC27122-10	SW846 6010C	19-DEC-13 19:45	SA	19-DEC-13	EM	AS
MC27122-10	CT-ETPH 7/06	24-DEC-13 02:38	ZB	17-DEC-13	BJ	BCTTPH
MC27122-10	SW846 8270D BY SIM	30-DEC-13 14:40	KR	18-DEC-13	FC	B8270SIMPAH
MC27122-11	Collected: 13-DEC-13 07:00 By: DL EB-1			Received: 13-DEC-13	By:	
MC27122-11	SW846 6010C	19-DEC-13 19:50	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-11	CT-ETPH 7/06	24-DEC-13 03:09	ZB	17-DEC-13	BJ	BCTTPH
MC27122-11	SW846 8270D BY SIM	30-DEC-13 15:01	KR	18-DEC-13	FC	B8270SIMPAH
MC27122-12	Collected: 13-DEC-13 08:40 By: DL AOC9-SB2-MW2			Received: 13-DEC-13	By:	
MC27122-12	SW846 6010C	19-DEC-13 19:55	SA	19-DEC-13	EM	AS,PB,SE,V,ZN
MC27122-12	CT-ETPH 7/06	24-DEC-13 03:40	ZB	17-DEC-13	BJ	BCTTPH
MC27122-12	SW846 8270D BY SIM	30-DEC-13 18:55	KR	18-DEC-13	FC	B8270SIMPAH
MC27122-13	Collected: 13-DEC-13 08:40 By: DL AOC9-SB2-MW2 DUP			Received: 13-DEC-13	By:	
MC27122-13	SW846 8270D BY SIM	30-DEC-13 19:16	KR	18-DEC-13	FC	B8270SIMPAH
MC27122-14	Collected: 13-DEC-13 09:40 By: DL AOC8-SB1-MW1			Received: 13-DEC-13	By:	
MC27122-14	CT-ETPH 7/06	24-DEC-13 04:43	ZB	17-DEC-13	BJ	BCTTPH
MC27122-14	SW846 8270D BY SIM	30-DEC-13 19:38	KR	18-DEC-13	FC	B8270SIMPAH

Internal Sample Tracking Chronicle

Shaw Environmental & Infrastructure

Job No: MC27122

NRG Middletown, Middletown, CT
Project No: 1009634015-02

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27122-15	Collected: 13-DEC-13 09:40 By: DL			Received: 13-DEC-13 By:		
AOC8-SB1-MW1 DUP						
MC27122-15	CT-ETPH 7/06	24-DEC-13 05:14	ZB	17-DEC-13	BJ	BCTTPH
MC27122-16	Collected: 12-DEC-13 15:55 By: DL			Received: 13-DEC-13 By:		
AOC2-SB1-MW1						
MC27122-16	SW846 6010C	19-DEC-13 20:09	SA	19-DEC-13	EM	AS,PB,SE,V,ZN

New England ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP36274-MB	R36273.D	1	12/30/13	KR	12/18/13	OP36274	MSR1331

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

MC27122-1, MC27122-10, MC27122-11, MC27122-12, MC27122-13, MC27122-14

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	ND	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	0.10	ug/l	
85-01-8	Phenanthrene	0.014	0.050	ug/l	J
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	70%	30-130%
321-60-8	2-Fluorobiphenyl	72%	30-130%
1718-51-0	Terphenyl-d14	102%	30-130%

Blank Spike Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP36274-BS	R36274.D	1	12/30/13	KR	12/18/13	OP36274	MSR1331

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

MC27122-1, MC27122-10, MC27122-11, MC27122-12, MC27122-13, MC27122-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	38.9	78	40-140
208-96-8	Acenaphthylene	50	30.8	62	40-140
120-12-7	Anthracene	50	34.8	70	40-140
56-55-3	Benzo(a)anthracene	50	44.8	90	40-140
50-32-8	Benzo(a)pyrene	50	38.8	78	40-140
205-99-2	Benzo(b)fluoranthene	50	44.8	90	40-140
191-24-2	Benzo(g,h,i)perylene	50	41.6	83	40-140
207-08-9	Benzo(k)fluoranthene	50	39.5	79	40-140
218-01-9	Chrysene	50	39.9	80	40-140
53-70-3	Dibenzo(a,h)anthracene	50	43.0	86	40-140
206-44-0	Fluoranthene	50	48.8	98	40-140
86-73-7	Fluorene	50	43.7	87	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	42.7	85	40-140
91-57-6	2-Methylnaphthalene	50	35.3	71	40-140
91-20-3	Naphthalene	50	37.0	74	40-140
85-01-8	Phenanthrene	50	38.3	77	40-140
129-00-0	Pyrene	50	52.6	105	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	82%	30-130%
1718-51-0	Terphenyl-d14	99%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Check Std: MSR1331-CC1261 **Injection Date:** 12/30/13
Lab File ID: R36265.D **Injection Time:** 10:42
Instrument ID: GCMSR **Method:** SW846 8270D BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	585404	3.39	1510651	4.43	877359	5.93	1656309	7.22	1216411	9.99	1986496	11.40
Upper Limit [a]	1170808	3.89	3021302	4.93	1754718	6.43	3312618	7.72	2432822	10.49	3972992	11.90
Lower Limit [b]	292702	2.89	755326	3.93	438680	5.43	828155	6.72	608206	9.49	993248	10.90

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP36274-MB	425877	3.39	1335375	4.43	761766	5.93	1491146	7.22	1269377	9.99	1602183	11.39
OP36274-BS	523082	3.39	1503682	4.43	883325	5.93	1743172	7.22	1247416	9.99	1598022	11.39
MC27122-1	496666	3.39	1405195	4.43	859454	5.93	1616840	7.22	1194057	9.99	1733177	11.39
MC27122-10	613225	3.39	1719575	4.43	974623	5.93	1887874	7.22	1514367	9.99	2194790	11.39
MC27122-11	469161	3.39	1389110	4.43	735289	5.93	1476605	7.22	1028573	9.99	1393958	11.39

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Check Std:	MSR1332-CC1261	**Injection Date:**	12/30/13
Lab File ID:	R36280.D	**Injection Time:**	16:03
Instrument ID:	GCMSR	**Method:**	SW846 8270D BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	1113950	3.39	3567370	4.43	2183297	5.93	3538197	7.22	2863083	9.99	3684207	11.39
Upper Limit [a]	2227900	3.89	7134740	4.93	4366594	6.43	7076394	7.72	5726166	10.49	7368414	11.89
Lower Limit [b]	556975	2.89	1783685	3.93	1091649	5.43	1769099	6.72	1431542	9.49	1842104	10.89

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
MC27122-12	1213209	3.39	3504990	4.43	2224544	5.93	3713121	7.22	2807674	9.99	3713576	11.39
MC27122-13	1015207	3.39	3496704	4.43	1892134	5.93	3059889	7.22	2436445	9.98	3423277	11.39
MC27122-14	1042967	3.39	3316330	4.43	1657620	5.93	3227938	7.22	2406190	9.99	3335889	11.39

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Method: SW846 8270D BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC27122-1	R36275.D	40.0	43.0	94.0
MC27122-10	R36276.D	52.0	47.0	91.0
MC27122-11	R36277.D	77.0	69.0	101.0
MC27122-12	R36288.D	71.0	72.0	96.0
MC27122-13	R36289.D	60.0	61.0	92.0
MC27122-14	R36290.D	82.0	73.0	92.0
OP36274-BS	R36274.D	79.0	82.0	99.0
OP36274-MB	R36273.D	70.0	72.0	102.0

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

New England ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP36246-MB	BC659244.D	1	12/23/13	ZB	12/17/13	OP36246	GBC3549

The QC reported here applies to the following samples: **Method:** CT-ETPH 7/06

MC27122-1, MC27122-10, MC27122-11, MC27122-12, MC27122-14, MC27122-15

CAS No.	Compound	Result	RL	Units	Q
	CT-ETPH (C9-C36)	ND	0.080	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	50-149%

Blank Spike Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP36246-BS	BC659246.D	1	12/23/13	ZB	12/17/13	OP36246	GBC3549

The QC reported here applies to the following samples: **Method:** CT-ETPH 7/06

MC27122-1, MC27122-10, MC27122-11, MC27122-12, MC27122-14, MC27122-15

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	CT-ETPH (C9-C36)	0.7	0.611	87	60-120

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	93%	50-149%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC27122
Account: FDG Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

Method: CT-ETPH 7/06 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
MC27122-1	BC659286.D	86.0
MC27122-10	BC659288.D	88.0
MC27122-11	BC659290.D	91.0
MC27122-12	BC659292.D	90.0
MC27122-14	BC659296.D	99.0
MC27122-15	BC659298.D	85.0
OP36246-BS	BC659246.D	93.0
OP36246-MB	BC659244.D	84.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	50-149%

(a) Recovery from GC signal #1

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	22	40		
Antimony	6.0	1.1	1.9		
Arsenic	4.0	1.2	2.9	-0.50	<4.0
Barium	50	.53	.81		
Beryllium	4.0	.15	.25		
Boron	100	.49	1.4		
Cadmium	4.0	.04	.5		
Calcium	5000	7.4	38		
Chromium	10	.38	1.4		
Cobalt	50	.15	.4		
Copper	25	.52	7		
Gold	50	1.4	5		
Iron	100	5	20		
Lead	5.0	.95	1.7	0.10	<5.0
Magnesium	5000	47	59		
Manganese	15	.04	.81		
Molybdenum	100	.29	.77		
Nickel	40	.25	.57		
Palladium	50	1.9	7.6		
Platinum	50	5.9	14		
Potassium	5000	56	160		
Selenium	10	1.8	4.8	1.7	<10
Silicon	100	1.3	45		
Silver	5.0	.56	1		
Sodium	5000	33	60		
Sulfur	50	3.4	8		
Strontium	10	.15	.26		
Thallium	5.0	.98	1.9		
Tin	100	.35	1.4		
Titanium	50	.44	1.8		
Tungsten	100	5.6	16		
Vanadium	10	.58	2.8	0.30	<10
Zinc	20	.21	.5	0.20	<20

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal			
Zirconium	50	1.8	2.2

Associated samples MP22287: MC27122-2, MC27122-3, MC27122-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13 12/19/13

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	552	500	110.4	80-120	538	500	107.6	2.6	20
Barium									
Beryllium									
Boron	anr								
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper	anr								
Gold									
Iron									
Lead	1110	1000	111.0	80-120	1100	1000	110.0	0.9	20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	532	500	106.4	80-120	516	500	103.2	3.1	20
Silicon									
Silver									
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	536	500	107.2	80-120	537	500	107.4	0.2	20
Zinc	555	500	111.0	80-120	556	500	111.2	0.2	20

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal
Zirconium

Associated samples MP22287: MC27122-2, MC27122-3, MC27122-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13

Metal	MC27121-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	11.6	9.50	18.1 (a)	0-10
Barium				
Beryllium				
Boron	anr			
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper	anr			
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium	6.00	0.00	100.0(a)	0-10
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium	125	125	0.1	0-10
Zinc	11.0	13.3	20.9 (b)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22287
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal
Zirconium

Associated samples MP22287: MC27122-2, MC27122-3, MC27122-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	22	40		
Antimony	6.0	1.1	1.9		
Arsenic	4.0	1.2	2.9	-0.40	<4.0
Barium	50	.53	.81		
Beryllium	4.0	.15	.25		
Boron	100	.49	1.4		
Cadmium	4.0	.04	.5		
Calcium	5000	7.4	38		
Chromium	10	.38	1.4		
Cobalt	50	.15	.4		
Copper	25	.52	7		
Gold	50	1.4	5		
Iron	100	5	20		
Lead	5.0	.95	1.7	-0.30	<5.0
Magnesium	5000	47	59		
Manganese	15	.04	.81		
Molybdenum	100	.29	.77		
Nickel	40	.25	.57		
Palladium	50	1.9	7.6		
Platinum	50	5.9	14		
Potassium	5000	56	160		
Selenium	10	1.8	4.8	1.5	<10
Silicon	100	1.3	45		
Silver	5.0	.56	1		
Sodium	5000	33	60		
Sulfur	50	3.4	8		
Strontium	10	.15	.26		
Thallium	5.0	.98	1.9		
Tin	100	.35	1.4		
Titanium	50	.44	1.8		
Tungsten	100	5.6	16		
Vanadium	10	.58	2.8	0.10	<10
Zinc	20	.21	.5	0.60	<20

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal			
Zirconium	50	1.8	2.2

Associated samples MP22288: MC27122-5, MC27122-6, MC27122-7, MC27122-8, MC27122-9, MC27122-10, MC27122-11, MC27122-12, MC27122-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:		12/19/13				12/19/13			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	533	500	106.6	80-120	526	500	105.2	1.3	20
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	1040	1000	104.0	80-120	1050	1000	105.0	1.0	20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	504	500	100.8	80-120	506	500	101.2	0.4	20
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	510	500	102.0	80-120	520	500	104.0	1.9	20
Zinc	530	500	106.0	80-120	530	500	106.0	0.0	20

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal
Zirconium

Associated samples MP22288: MC27122-5, MC27122-6, MC27122-7, MC27122-8, MC27122-9, MC27122-10, MC27122-11, MC27122-12, MC27122-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13

Metal	MC27129-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium	2.90	0.00	100.0(a)	0-10
Silicon				
Silver	anr			
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium	0.00	0.00	NC	0-10
Zinc	10.0	14.3	43.0 (a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC27122
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Middletown, Middletown, CT

QC Batch ID: MP22288
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

Zirconium

Associated samples MP22288: MC27122-5, MC27122-6, MC27122-7, MC27122-8, MC27122-9, MC27122-10, MC27122-11, MC27122-12, MC27122-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

ATTACHMENT 2

NOTES:

1. MATERIAL AREAS ARE BASED ON FIELD SURVEY DATA ON 10/01/2013 AT THE NRG MIDDLETOWN, CT POWER STATION.

THE SURVEY WAS PERFORMED BY:
O'BRIEN ASSOCIATES INC.
83 MOUNTAIN LAUREL DRIVE, MIDDLETOWN, CT 06457
PHONE: 860-345-7511
FOR: HUBERT E. BUTLER CONSTRUCTION COMPANY

2. AREAS SHOWN WERE CALCULATED BY CLOSED POLYGONS AND SHOWN SQUARE FOOTAGE ONLY.

3. PLEASE REVIEW TYPE OF MATERIALS AND THICKNESS OF MATERIALS FOR EACH AREA.

4. "NORTH" IS ASSUMED

5. SCALE: 1" = 50'

6. SKETCH DATE: 10-04-2013

CAD FILE NOTES:

1. HORIZONTAL COORDINATES ARE ASSUMED
2. VERTICAL DATUM IS ASSUMED
3. PROJECT CONTROL POINTS WERE NOT SUPPLIED IN CONTRACT DRAWINGS.
3. THE USE OF THIS CAD FILE WAS INTENDED FOR THE CALCULATIONS OF SURFACE AREA OF INSTALLED STONE ONLY BY BUTLER CONSTRUCTION CO.

CAD FILE NOTES:
1. HORIZONTAL COORDINATES ARE ASSUMED
2. VERTICAL DATUM IS ASSUMED
3. PROJECT CONTROL POINTS WERE NOT SUPPLIED IN CONTRACT DRAWINGS.
3. THE USE OF THIS CAD FILE WAS INTENDED FOR THE CALCULATIONS OF SURFACE AREA OF INSTALLED STONE ONLY BY BUTLER CONSTRUCTION CO.

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1. MATERIAL AREAS ARE BASED ON FIELD SURVEY DATA ON 10/01/2013 AT THE NRG MIDDLETOWN, CT POWER STATION.
THE SURVEY WAS PERFORMED BY:
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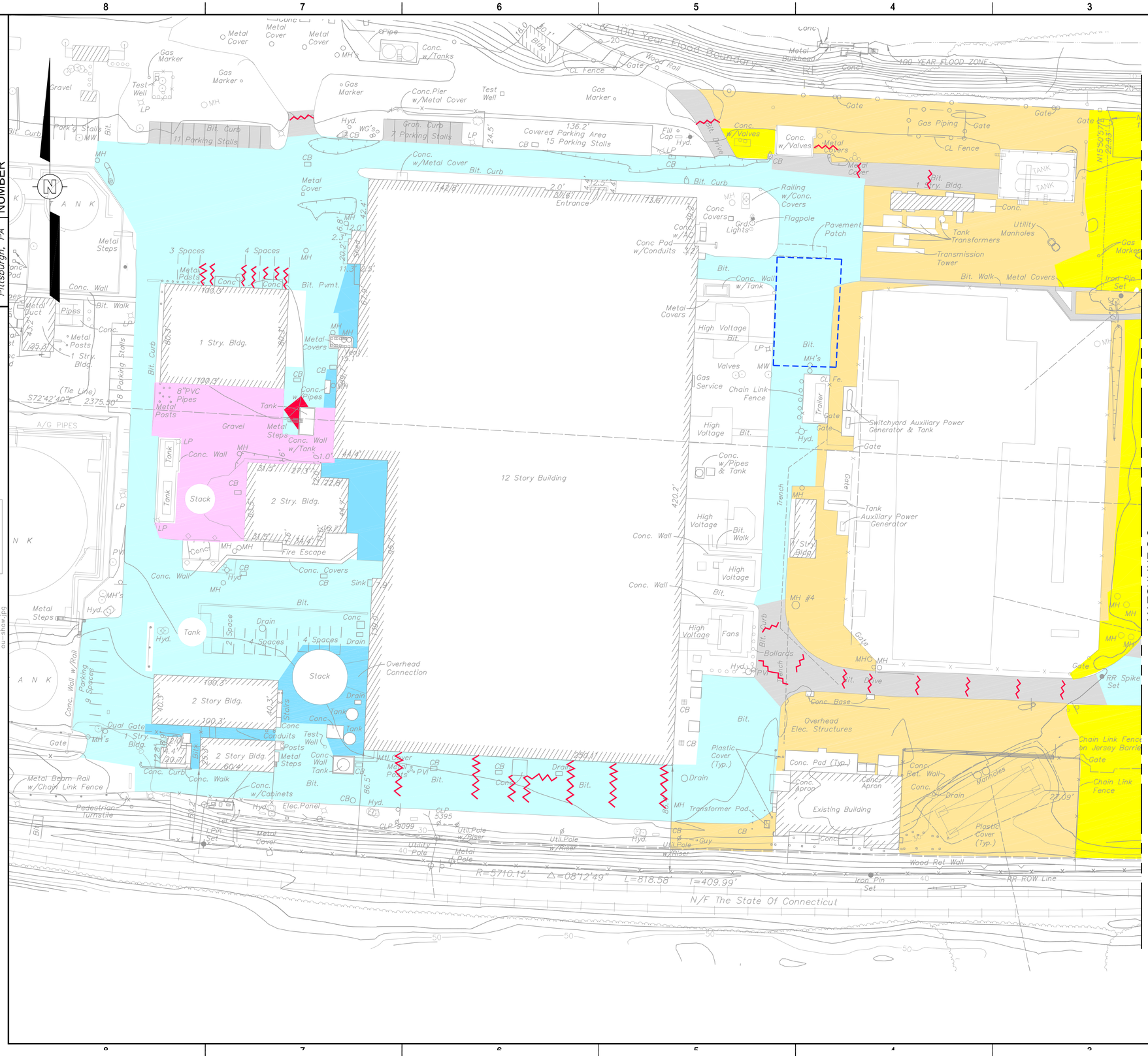
83 MOUNTAIN LAUREL DRIVE, MIDDLETOWN, CT 06457
PHONE: 860-345-7511
FOR: HUBERT E. BUTLER CONSTRUCTION COMPANY
2. AREAS SHOWN WERE CALCULATED BY CLOSED POLYGONS AND SHOWN SQUARE FOOTAGE ONLY.
3. PLEASE REVIEW TYPE OF MATERIALS AND THICKNESS OF MATERIALS FOR EACH AREA.
4. "NORTH" IS ASSUMED
5. SCALE: 1" = 50'
6. SKETCH DATE: 10-04-2013

ATTACHMENT 3

OFFICE Pittsburgh, PA

DRAWING NUMBER 1009634024-D1



LEGEND FOR ENGINEERED CONTROLS:

- 22 — EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL

NOTE:

SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

DRAFT

SCALE
0 40 80 120 FEET

VERIFY SCALE 0 1"

Xref :
Image : CB&I.jpg
ou-show.jpg

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Plot Date/Time: Feb 03, 2014 - 1:47pm
Plotted By: greg.jones

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF

Shaw®
Shaw Environmental, Inc.
150 Royall Street
Canton, MA 02021

DESIGNED BY: P. Farrington
DRAWN BY: G. Jones
CHECKED BY: A. Walker
APPROVED BY:

MIDDLETOWN POWER LLC
MIDDLETOWN, CONNECTICUT

AS-BUILT ENGINEERED CONTROLS

MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DATE:	SCALE:	DRAWING NO.	SHEET NO.
1/2/14	AS SHOWN	1009634024-D1	C-1

OFFICE Pittsburgh, PA

DRAWING NUMBER 1009634024-D1

MATCHLINE C-1

MATCHLINE C-3

LIMITS OF GEN CON REPOWERING PROJECT–PART OF ENGINEERED CONTROLS–INCLUDES FOUNDATIONS, CONCRETE, ASPHALT PAVEMENT AND CRUSHED STONE

LEGEND FOR ENGINEERED CONTROLS:

- 22 — EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL

NOTE:

SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

DRAFT

SCALE
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF

Shaw Environmental, Inc.
150 Royall Street
Canton, MA 02021

DESIGNED BY: P. Farrington
DRAWN BY: G. Jones
CHECKED BY: A. Walker
APPROVED BY:

MIDDLETOWN POWER LLC
MIDDLETOWN, CONNECTICUT

AS-BUILT
ENGINEERED CONTROLS
MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DATE: 1/2/14 | SCALE: AS SHOWN | DRAWING NO. 1009634024–D1 | SHEET NO. C-2

VERIFY SCALE 0 1"

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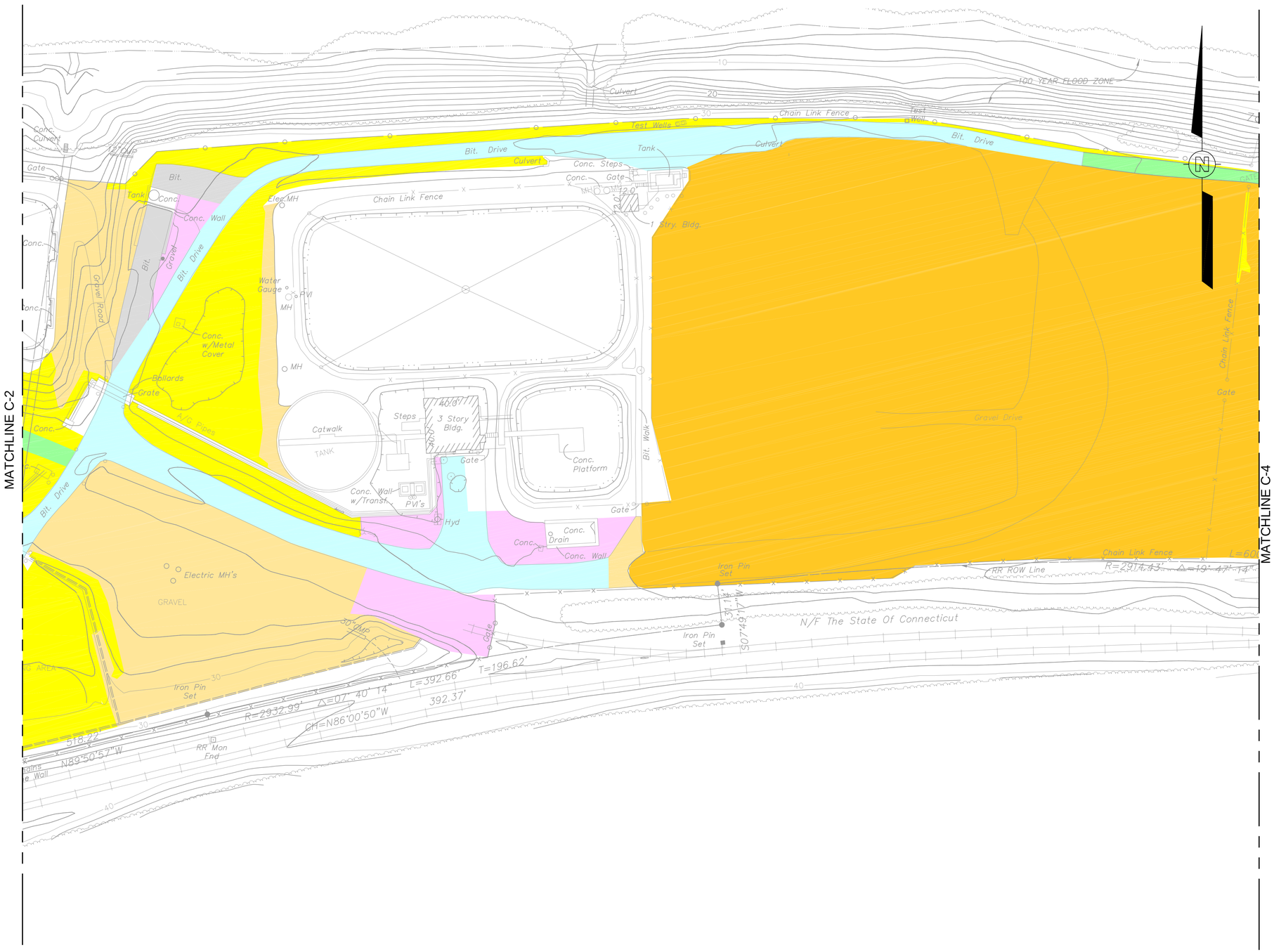
Plotted By: greg.jones

OFFICE Pittsburgh, PA

DRAWING NUMBER 1009634024-D1



LEGEND FOR ENGINEERED CONTROLS:

- 22 — EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL
- SOIL COVER REQUIRED

NOTE:

SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

DRAFT

SCALE
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF

Shaw Environmental, Inc.
150 Royall Street
Canton, MA 02021

DESIGNED BY: P. Farrington
DRAWN BY: G. Jones
CHECKED BY: A. Walker
APPROVED BY:

MIDDLETOWN POWER LLC
MIDDLETOWN, CONNECTICUT

AS-BUILT
ENGINEERED CONTROL
MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DATE: 1/2/14 | SCALE: AS SHOWN | DRAWING NO. 1009634024-D1 | SHEET NO. C-3

VERIFY SCALE 0 1"

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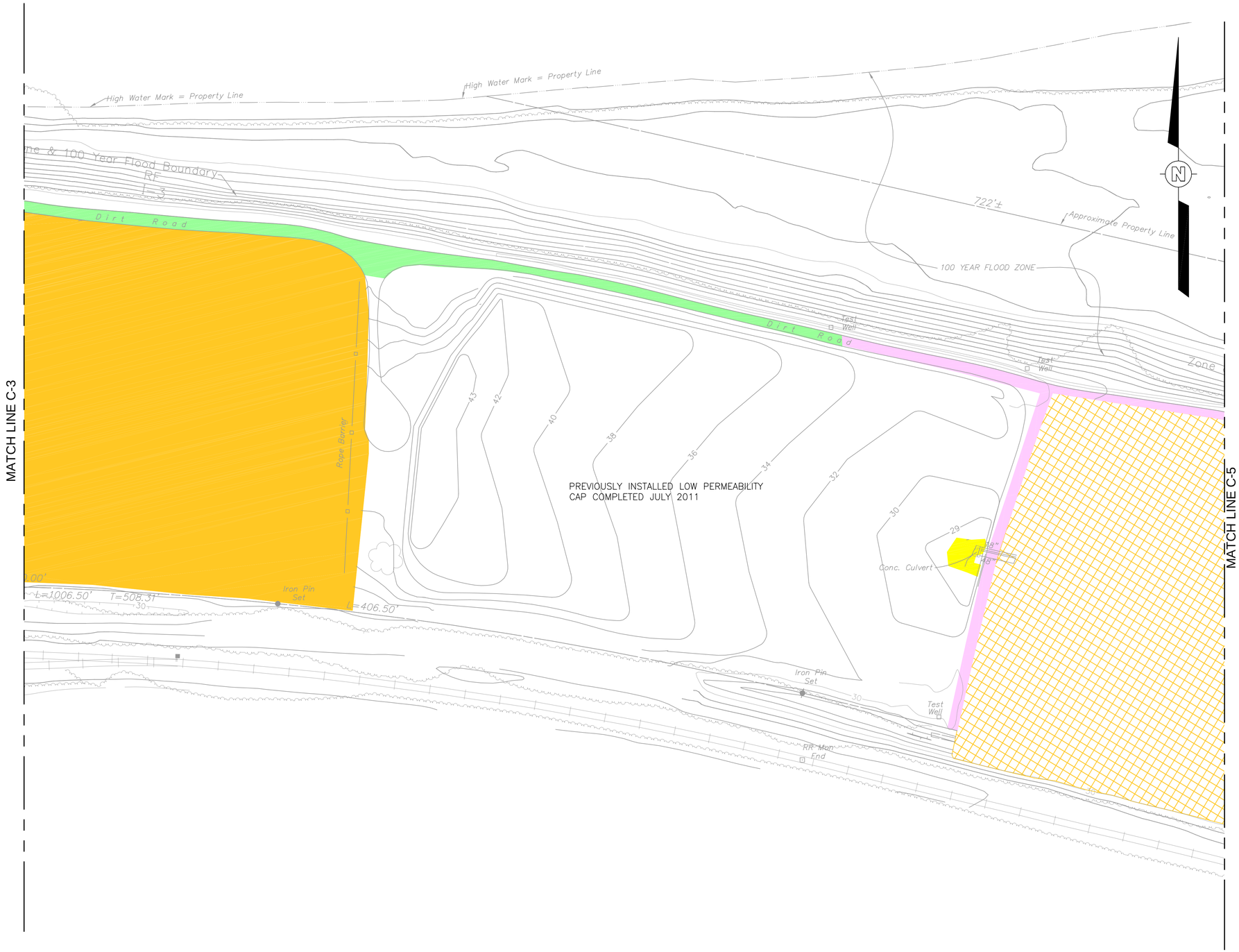
Plot Date/Time: Feb 03, 2014 - 1:48pm
Plotted By: greg.jones

OFFICE Pittsburgh, PA

DRAWING NUMBER 1009634024-D1



LEGEND FOR ENGINEERED CONTROLS:

- 22 — EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL
- SOIL COVER REQUIRED
- LOW PERMEABILITY CAP REQUIRED

NOTE:

SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

DRAFT

SCALE
0 40 80 120 FEET

VERIFY SCALE 0 1"

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF

Shaw Environmental, Inc.
150 Royall Street
Canton, MA 02021

DESIGNED BY: P. Farrington
DRAWN BY: G. Jones
CHECKED BY: A. Walker
APPROVED BY:

MIDDLETOWN POWER LLC
MIDDLETOWN, CONNECTICUT

AS-BUILT
ENGINEERED CONTROL
MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DATE:	SCALE:	DRAWING NO.	SHEET NO.
1/2/14	AS SHOWN	1009634024-D1	C-4

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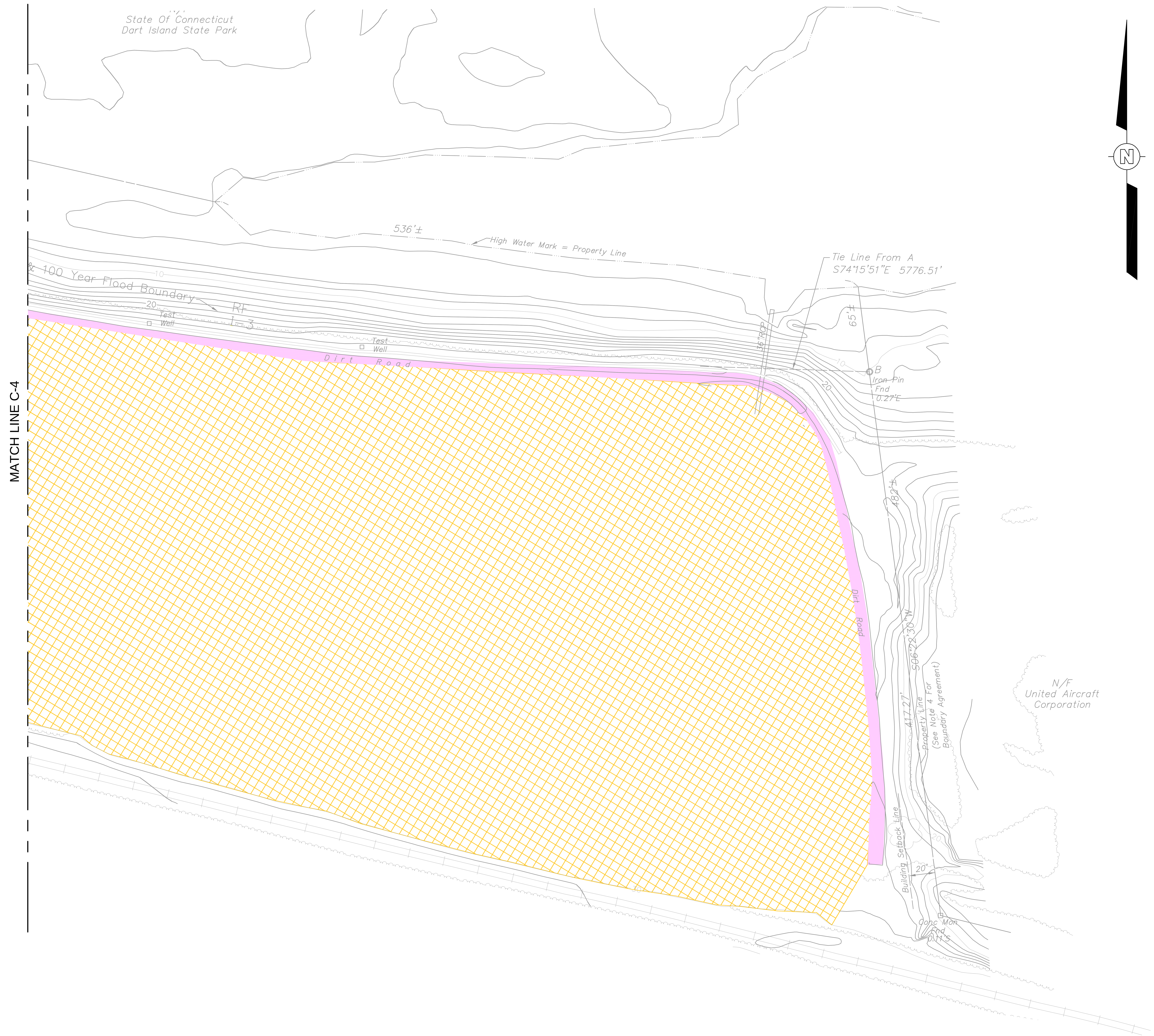
Plotted By: greg.jones



LEGEND FOR ENGINEERED CONTROLS:

- 22 — EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL
- SOIL COVER REQUIRED
- LOW PERMEABILITY CAP REQUIRED

NOTE:

SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

DRAFT

SCALE
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF

Shaw Environmental, Inc.
150 Royall Street
Canton, MA 02021

DESIGNED BY: P. Farrington
DRAWN BY: G. Jones
CHECKED BY: A. Walker
APPROVED BY:

MIDDLETOWN POWER LLC
MIDDLETOWN, CONNECTICUT

AS-BUILT
ENGINEERED CONTROL
MIDDLETOWN GENERATING STATION
MIDDLETOWN, CONNECTICUT

DATE:	SCALE:	DRAWING NO.	SHEET NO.
1/2/14	AS SHOWN	1009634024-D1	C-5

OFFICE: Pittsburgh, PA
DRAWING NUMBER: 1009634024-D1

VERIFY SCALE 0 1"

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Image : CB&I.jpg ou-shaw.jpg

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Plot Date/Time: Feb 03, 2014 - 1:50pm
Plotted By: greg.jones

ATTACHMENT 4

Photo Log - Engineered Control Construction
NRG-Middletown, Middletown, CT
Fall 2013

1. View of asphalt pavement over low perm engineered control rubber membrane in the area of the north fuel oil additive tank (AOC 8). Photo October 11, 2013.

2. View of asphalt pavement engineered control in progress at northeast corner of main building. Photo September/October 2013.

3. View of completed asphalt pavement and stone engineered controls northeast of cooling tower. Photo September/October 2013.

4. View of completed asphalt pavement and stone engineered controls northwest of wastewater treatment facility. Photo September/October 2013.

5. View of milled asphalt pavement on south side of “blue building” at main gate. Photo September/October 2013.

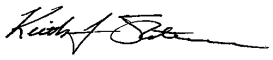
6. View of completed asphalt pavement engineered control on south side of main building. Photo November 7, 2013.

7. View of completed stone engineered control on north side of the holding tanks (darker existing stone under pipe and around tanks). Photo November 7, 2013.

8. View of completed asphalt pavement and stone engineered controls southwest of cooling tower. Photo November 7, 2013.

ATTACHMENT 5

Engineered Control Inspection Checklist
Middletown Generating Station
Middletown, CT

Completed by: Keith Shortsleeve
Company: NRG
Date: 09-12-13
Signature: 

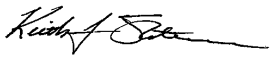
Problem Code

ACE 1 or 2 = Aggregate Cover Erosion, Moderate or Severe
ACSW 1 or 2 = Aggregate Cover Subsurface Washout, Moderate or Severe
SCE 1 or 2 = Soil Cover Erosion, Moderate or Severe
SCSW 1 or 2 = Soil Cover Subsurface Washout, Moderate or Severe
GD 1 or 2 = Vegetation Dead, Moderate or Severe
GE 1 or 2 = Vegetation Erosion, Moderate or Severe
GP = Vegetation Water Ponding Observed
GSF = Vegetation Slope Failure
GSW = Vegetation Subsurface Washout
PDSO = Perimeter Drainage Swale Obstructed
DCO = Drainage Culvert Obstructed
AP C1 = Asphalt Pavement Cracks > 1/2 inch
AP C2 = Asphalt "Potholes"
SF = Slope Failure
O = Other

Remedial Areas (1)	Problem Code	Repair Requirements and Notes (Provide Description)
AOC 1		
Low Permeability Engineered Control		Construction partially complete.
Aggregate Engineered Control		Construction in progress.
Soil Engineered Control		Construction incomplete.
Prior Repair Area (2)		Construction complete.
AOC 8		
Asphalt Engineered Control		New Asphalt Planned.
Prior Repair Area (2)		Construction Incomplete.
AOC 13 (Eastern half)		
Aggregate Engineered Control		Construction incomplete.
Soil Engineered Control		Construction incomplete.
Asphalt Engineered Control		Construction incomplete.
Prior Repair Area (2)		

Notes:
(1) Use Sheets 1, 2, 3 and 4 of the Engineered Control Drawings for the Inspection Plan.
(2) Document condition of each area identified and repaired during previous inspection.

Engineered Control Inspection Checklist
Middletown Generating Station
Middletown, CT

Completed by: Keith Shortsleeve
Company: NRG
Date: 12-5-13
Signature: 

Problem Code

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SCSW 1 or 2 = Soil Cover Subsurface Washout, Moderate or Severe
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GSW = Vegetation Subsurface Washout
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DCO = Drainage Culvert Obstructed
AP C1 = Asphalt Pavement Cracks > 1/2 inch
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Remedial Areas (1)	Problem Code	Repair Requirements and Notes (Provide Description)
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Low Permeability Engineered Control		Construction partially complete.
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Soil Engineered Control		Construction incomplete.
Prior Repair Area (2)		Construction complete.
AOC 8		
Asphalt Engineered Control		Construction complete.
Prior Repair Area (2)		Construction complete.
AOC 13 (Eastern half)		
Aggregate Engineered Control		Construction partially complete.
Soil Engineered Control		Construction incomplete.
Asphalt Engineered Control		Construction complete.

Notes:
(1) Use Sheets 1, 2, 3 and 4 of the Engineered Control Drawings for the Inspection Plan.
(2) Document condition of each area identified and repaired during previous inspection.